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Analyses of Natural Gases, 1981

By Richard D. Miller and Floyd R. Hertweck, Jr.

UNITED STATES DEPARTMENT OF THE INTERIOR

Information Circular 8890

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UNITED STATES DEPARTMENT OF THE INTERIOR
James G. Watt, Secretary

BUREAU OF MINES
Robert C. Horton, Director

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

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This publication has been cataloged as follows:

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Miller, Richard D

Analyses of natural gases, 1981.

(Information circular / United States Department of the Interior, Bureau of Mines ; 8890)

Includes bibliographical references.

Supt. of Docs. no.: I 28.27:8890.

1. Gas, Natural—Analysis. I. Hertweck, Floyd R. II. Title. III. Series: Information circular (United States. Bureau of Mines) ; 8890.

~~TN295.U4~~ [TP350] 622s [553.2'85'0287] 82-600210

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

CONTENTS

	Page
Introduction	1
Acknowledgments	2
Geologic provinces of the United States	2
Tables	8
Previous publications in this series	84

ILLUSTRATION

1. Geologic provinces of the United States 3

TABLES

1. Samples from gas and oil wells in the United States 9
2. Samples from pipelines in the United States 83

ANALYSES OF NATURAL GASES, 1981

By Richard D. Miller[1] and Floyd R. Hertweck, Jr.[2]

INTRODUCTION

This Bureau of Mines publication contains analyses and related source data for 224 natural gas samples from 18 States. Of the total, 191 samples were collected during calendar year 1981. The remaining 33 samples were collected during previous years, but releases granting permission to publish were not received until 1981. All samples were obtained and analyzed as part of Bureau of Mines investigations of the occurrences of helium in natural gases of countries with free market economies. This survey has been conducted since 1917. The analyses published herein were made by the mass spectrometer and special helium apparatus described previously (1-2).[3]

The results of the investigation of the occurrences of helium are published annually to make the information available as soon as possible to the gas industry and the general public. Twenty-five publications have presented the results of 12,827 gas analyses made prior to 1981. The first three bulletins (1-3) contain analyses and related data on 5,218 gas samples collected from 1917 through 1960; these bulletins have been supplemented annually by information circulars (4-17, 19-24) containing 7,609 analyses of samples collected since 1960.

In 1976, a compilation of the analyses made prior to 1975 was prepared by the Bureau of Mines and published by the National Technical Information Service of the U.S. Department of Commerce (18). This compilation contains 10,562 analyses of gas samples from oil and gas wells and natural gas pipelines in 37 States and 23 foreign countries. In 1982, a compilation of analyses made prior to 1980 was published (25). The 1982 publication contains 12,554 analyses of gas samples from oil and gas wells and natural gas pipelines in 39 States and 24 foreign countries, including all of the analyses included in the 1976 publication.

In addition to being included in the publications, all published analyses and related information are available on a magnetic tape file. The tape is available for $125 from the National Technical Information Service, Springfield, Va. 22161; orders should refer to Bureau of Mines tape PB82-121708.

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[3]Underlined numbers in parentheses refer to items in the list of previous publications at the end of the report.

ACKNOWLEDGMENTS

The helium survey program is conducted by soliciting natural gas samples throughout the United States and other countries with free market economies. Without the assistance of the oil industry, State and national agencies, and many individuals engaged in oil and gas exploration and production, the helium survey with its present scope would be impossible.

The analyses listed in the tables were made by the Section of Technical and Analytical Services, Helium Field Operations, Bureau of Mines, Amarillo, Tex. The list of analyses was produced through use of a computer by the Section of Automatic Data Processing, Helium Field Operations, Bureau of Mines, Amarillo, Tex.

GEOLOGIC PROVINCES OF THE UNITED STATES

The tables include geologic province codes so each sample source can be located within a specific geologic province as defined by the Committee on Statistics of Drilling of the American Association of Petroleum Geologists.[4] These provinces, which are given in the following list and shown in figure 1, are delineated by political boundaries for convenience and for accommodation of data-processing equipment. Not all of the provinces shown are gas-producing areas, so many of the codes are not used in this publication. In offshore areas, only one code is used for each State since State or Federal ownership is not always known. Only one code, 972, is used for all wells in Alaska, both onshore and offshore, because of the lack of information on the location of wells in that State.

The following list and figure 1 are taken from the article cited in footnote 4.

[4]Meyer, R. F. Geologic Provinces Code Map for Computer Use. AAPG Bull., v. 54, No. 7, July 1970, pp. 1301-1305.

FIGURE 1. - Geologic provinces of the United States.

Code	Province
100	New England province
110	Adirondack uplift
120	Atlantic Coast basin
130	South Georgia-North Florida sedimentary province
140	South Florida province
150	Piedmont-Blue Ridge province
160	Appalachian basin
200	Warrior basin
210	Mid-Gulf Coast basin
220	Gulf Coast basin
230	Arkla basin
240	Desha basin
250	Upper Mississippi embayment
260	East Texas basin
300	Cincinnati arch
305	Michigan basin
310	Wisconsin arch
315	Illinois basin
320	Sioux uplift
325	Iowa shelf
330	Lincoln anticline
335	Forest City basin
340	Ozark uplift
345	Arkoma basin
350	South Oklahoma folded belt province
355	Chautauqua platform
360	Anadarko basin
365	Cherokee basin
370	Nemaha anticline
375	Sedgwick basin
380	Salina basin
385	Central Kansas uplift
390	Chadron arch
395	Williston basin
400	Ouachita tectonic belt province
405	Kerr basin
410	Llano uplift
415	Strawn basin
420	Fort Worth syncline
425	Bend arch
430	Permian basin
435	Palo Duro basin
440	Amarillo arch
445	Sierra Grande uplift
450	Las Animas arch
455	Las Vegas-Raton basin
460	Estancia basin
465	Orogrande basin

Code	Province
470	Pedregosa basin
475	Basin-and-Range province
500	Sweetgrass arch
505	Montana folded belt province
510	Central Montana uplift
515	Powder River basin
520	Big Horn basin
525	Yellowstone province
530	Wind River basin
535	Green River basin
540	Denver basin
545	North Park basin
550	South Park basin
555	Eagle basin
560	San Luis basin
565	San Juan Mountain province
570	Uinta uplift
575	Uinta basin
580	San Juan basin
585	Paradox basin
590	Black Mesa basin
595	Piceance basin
600	Northern Cascade Range--Okanagan province
605	Eastern Columbia basin
610	Idaho Mountains province
615	Snake River basin
620	Southern Oregon basin
625	Great Basin province
630	Wasatch uplift
635	Plateau sedimentary province
640	Mojave basin
645	Salton basin
650	Sierra Nevada province
700	Bellingham basin
705	Puget Sound province
710	Western Columbia basin
715	Klamath Mountains province
720	Eel River basin
725	Northern Coast Range province
730	Sacramento basin
735	Santa Cruz basin
740	Coastal basins
745	San Joaquin basin
750	Santa Maria basin
755	Ventura basin
760	Los Angeles basin
765	Capistrano basin

Code	Province
800	Heceta Island area
805	Keku Islands area
810	Gulf of Alaska basin
815	Copper River basin
820	Cook Inlet basin
830	Kandik province
835	Kobuk province
840	Koyukuk province
845	Bristol Bay basin
850	Bethel basin
855	Norton basin
860	Selawik basin
863	Yukon Flats basin
865	Lower Tanana basin
867	Middle Tanana basin
870	Upper Tanana basin
873	Galena basin
875	Innoko basin
877	Minchumina basin
880	Holitna basin
885	Arctic Foothills province
890	Arctic Slope basin
900	Maine Atlantic offshore--general
901	Maine Atlantic offshore--State
902	Maine Atlantic offshore--Federal
903	New Hampshire Atlantic offshore--general
904	New Hampshire Atlantic offshore--State
905	New Hampshire Atlantic offshore--Federal
906	Massachusetts Atlantic offshore--general
907	Massachusetts Atlantic offshore--State
908	Massachusetts Atlantic offshore--Federal
909	Rhode Island Atlantic offshore--general
910	Rhode Island Atlantic offshore--State
911	Rhode Island Atlantic offshore--Federal
912	Connecticut Atlantic offshore--general
913	Connecticut Atlantic offshore--State
914	Connecticut Atlantic offshore--Federal
915	New York Atlantic offshore--general
916	New York Atlantic offshore--State
917	New York Atlantic offshore--Federal
918	New Jersey Atlantic offshore--general
919	New Jersey Atlantic offshore--State
920	New Jersey Atlantic offshore--Federal
921	Delaware Atlantic offshore--general
922	Delaware Atlantic offshore--State
923	Delaware Atlantic offshore--Federal
924	Maryland Atlantic offshore--general
925	Maryland Atlantic offshore--State
926	Maryland Atlantic offshore--Federal

Code	Province
927	Virginia Atlantic offshore--general
928	Virginia Atlantic offshore--State
929	Virginia Atlantic offshore--Federal
930	North Carolina Atlantic offshore--general
931	North Carolina Atlantic offshore--State
932	North Carolina Atlantic offshore--Federal
933	South Carolina Atlantic offshore--general
934	South Carolina Atlantic offshore--State
935	South Carolina Atlantic offshore--Federal
936	Georgia Atlantic offshore--general
937	Georgia Atlantic offshore--State
938	Georgia Atlantic offshore--Federal
939	Florida Atlantic offshore--general
940	Florida Atlantic offshore--State
941	Florida Atlantic offshore--Federal
942	Florida Gulf of Mexico offshore--general
943	Florida Gulf of Mexico offshore--State
944	Florida Gulf of Mexico offshore--Federal
945	Alabama Gulf of Mexico offshore--general
946	Alabama Gulf of Mexico offshore--State
947	Alabama Gulf of Mexico offshore--Federal
948	Mississippi Gulf of Mexico offshore--general
949	Mississippi Gulf of Mexico offshore--State
950	Mississippi Gulf of Mexico offshore--Federal
951	Louisiana Gulf of Mexico offshore--general
952	Louisiana Gulf of Mexico offshore--State
953	Louisiana Gulf of Mexico offshore--Federal
954	Texas Gulf of Mexico offshore--general
955	Texas Gulf of Mexico offshore--State
956	Texas Gulf of Mexico offshore--Federal
967	California Pacific offshore--general
958	California Pacific offshore--State
959	California Pacific offshore--Federal
960	Oregon Pacific offshore--general
961	Oregon Pacific offshore--State
962	Oregon Pacific offshore--Federal
963	Washington Pacific offshore--general
964	Washington Pacific offshore--State
965	Washington Pacific offshore--Federal
972	Alaska Arctic offshore--general
973	Alaska Arctic offshore--State
974	Alaska Arctic offshore--Federal
975	Alaska Bering Sea offshore--general
976	Alaska Bering Sea offshore--State
977	Alaska Bering Sea offshore--Federal
978	Alaska Pacific offshore--general
979	Alaska Pacific offshore--State
980	Alaska Pacific offshore--Federal
987	Minnesota Lake Superior offshore
988	Wisconsin Lake Superior offshore
989	Michigan Lake Superior offshore
990	Indiana Lake Michigan offshore

Code	Province
991	Illinois Lake Michigan offshore
992	Wisconsin Lake Michigan offshore
993	Michigan Lake Michigan offshore
994	Michigan Lake Huron offshore
995	Michigan Lake Erie offshore
996	Ohio Lake Erie offshore
997	Pennsylvania Lake Erie offshore
998	New York Lake Erie offshore
999	New York Lake Ontario offshore

TABLES

The following tables include the results of analyses and related source data from gas samples which are divided into two groups as follows:

Table 1. - Samples from gas and oil wells in the United States.

Table 2. - Samples from pipelines in the United States.

The following list indicates the sources of the samples listed in the tables:

Source	Number of samples	Tables	Source	Number of samples	Tables
Alabama.....	6	1	New Mexico.....	15	1
Arkansas.....	12	1	North Dakota.....	1	1
California.....	4	1	Ohio.....	2	1
Colorado.....	12	1	Oklahoma.....	43	1
Kansas.....	18	1	Oregon.....	3	1
Louisiana.....	15	1,2	Pennsylvania.....	2	1
Michigan.....	2	1	Texas.....	48	1
Mississippi.....	5	1	West Virginia.....	2	1
Montana.....	3	1	Wyoming.....	31	1

All components of the analyses in the tables are reported to the nearest 0.1 percent, except helium, which is reported to the nearest 0.01 percent. The word "trace" is used to denote quantities of helium of less than 0.005 percent and quantities of other components of less than 0.05 percent.

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 1 SAMPLE 16156	INDEX 2 SAMPLE 16157	INDEX 3 SAMPLE 16163
STATE	ALABAMA	ALABAMA	ALABAMA
COUNTY	BALDWIN	BALDWIN	BALDWIN
FIELD	FOLEY	FOLEY	FOLEY
WELL NAME	MEYERS FOUNDATION 8-2 NO. 1	ROSE WEEK 7-2 NO. 1	FOLEY DAIRY NO. 1
LOCATION	NOT GIVEN	SEC. 7, T8S, R5E	SEC.31,T7S,R4E
OWNER	AMOCO PRODUCTION CO.	AMOCO PRODUCTION CO.	AMOCO PRODUCTION CO.
COMPLETED	12/19/80	12/12/80	08/01/80
SAMPLED	12/12/80	12/17/80	01/07/81
FORMATION	-STRAY	NOT GIVEN	-AMOS SAND
GEOLOGIC PROVINCE CODE	210	210	210
DEPTH, FEET	1326	1757	1650
WELLHEAD PRESSURE,PSIG	582	790	705
OPEN FLOW, MCFD	3700	2600	5700
COMPONENT, MOLE PCT			
METHANE	98.1	90.8	97.4
ETHANE	0.1	0.1	0.1
PROPANE	TRACE	TRACE	TRACE
N-BUTANE	TRACE	0.0	0.0
ISOBUTANE	TRACE	0.0	0.0
N-PENTANE	TRACE	0.0	0.0
ISOPENTANE	0.0	0.0	0.0
CYCLOPENTANE	0.1	0.0	0.0
HEXANES PLUS	0.1	0.0	0.0
NITROGEN	1.5	7.4	2.3
OXYGEN	0.0	1.5	0.1
ARGON	TRACE	0.1	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.1	0.1
HELIUM	0.01	0.01	0.02
HEATING VALUE*	1005	922	988
SPECIFIC GRAVITY	0.571	0.596	0.566

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 4 SAMPLE 16165	INDEX 5 SAMPLE 16181	INDEX 6 SAMPLE 16243
STATE	ALABAMA	ALABAMA	ALABAMA
COUNTY	BALDWIN	LAMAR	MOBILE
FIELD	FOLEY	MILLPORT	HATTERS POND
WELL NAME	JOHN KRUPINSKI NO.2	ODOM 11-9 NO. 1	CREOLA MINERALS 33-10 NO. 2
LOCATION	SEC.31,T7S,R4E	SEC. 11, T17S, R15W	SEC. 33, T1S, R1W
OWNER	AMOCO PRODUCTION CO.	PRUET PRODUCTION CO.	GETTY OIL CO.
COMPLETED	08/05/80	NOT GIVEN	01/07/81
SAMPLED	01/08/81	01/28/81	04/21/81
FORMATION	-AMOS SAND	MISS-CARTER	JURA-SMACKOVER
GEOLOGIC PROVINCE CODE	210	200	210
DEPTH, FEET	1660	4326	18338
WELLHEAD PRESSURE,PSIG	697	1100	2500
OPEN FLOW, MCFD	5400	2102	5100
COMPONENT, MOLE PCT			
METHANE	93.3	89.9	67.2
ETHANE	0.1	4.8	10.8
PROPANE	TRACE	1.4	5.1
N-BUTANE	0.0	0.6	1.6
ISOBUTANE	TRACE	0.1	1.3
N-PENTANE	TRACE	0.2	0.4
ISOPENTANE	0.0	0.5	0.5
CYCLOPENTANE	TRACE	0.4	0.1
HEXANES PLUS	0.1	0.5	0.3
NITROGEN	4.6	1.2	5.1
OXYGEN	0.4	0.1	TRACE
ARGON	0.1	TRACE	TRACE
HYDROGEN	0.0	TRACE	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.9
CARBON DIOXIDE	1.4	0.3	6.5
HELIUM	0.01	0.10	0.03
HEATING VALUE*	952	1127	1168
SPECIFIC GRAVITY	0.593	0.645	0.819

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 7 SAMPLE 16315	INDEX 8 SAMPLE 16316	INDEX 9 SAMPLE 16228
STATE	ARKANSAS	ARKANSAS	ARKANSAS
COUNTY	FRANKLIN	FRANKLIN	FRANKLIN
FIELD	BRANCH	BRANCH	ROSS
WELL NAME	TURNER NO. 1	TURNER NO. 1	J. A. CROOTS NO. 2
LOCATION	SEC. 3, T7N, R28W	SEC. 3, T7N, R28W	SEC. 16, T9N, R21W
OWNER	ARKLA EXPLORATION CO.	ARKLA EXPLORATION CO.	ARKANSAS LOUISIANA GAS CO.
COMPLETED	12/05/80	12/05/80	01/19/81
SAMPLED	08/20/81	08/20/81	04/06/81
FORMATION	ORDO-VIOLA	PENN-HALE	-RUSSELL
GEOLOGIC PROVINCE CODE	345	345	345
DEPTH, FEET	9990	5000	3621
WELLHEAD PRESSURE,PSIG	3400	1700	1500
OPEN FLOW, MCFD	4500	600	2200
COMPONENT, MOLE PCT			
METHANE	95.4	95.5	97.6
ETHANE	0.9	0.9	1.1
PROPANE	0.1	0.1	0.1
N-BUTANE	0.0	0.0	TRACE
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	TRACE
ISOPENTANE	0.0	0.0	TRACE
CYCLOPENTANE	0.0	0.0	TRACE
HEXANES PLUS	0.0	0.0	TRACE
NITROGEN	0.9	0.7	0.7
OXYGEN	TRACE	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	2.5	2.7	0.3
HELIUM	0.12	0.12	0.10
HEATING VALUE*	985	986	1011
SPECIFIC GRAVITY	0.587	0.589	0.566

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 10 SAMPLE 16297	INDEX 11 SAMPLE 16298	INDEX 12 SAMPLE 16299
STATE	ARKANSAS	ARKANSAS	ARKANSAS
COUNTY	JOHNSON	JOHNSON	JOHNSON
FIELD	BATSON	BATSON	BATSON
WELL NAME	WOOTEN-FEDERAL NO. 1	WOOTEN-FEDERAL NO. 1	WOOTEN-FEDERAL NO. 1
LOCATION	SEC. 10, T11N, R25W	SEC. 10, T11N, R25W	SEC. 10, T11N, R25W
OWNER	SEECO, INC.	SEECO, INC.	SEECO, INC.
COMPLETED	07/22/81	07/22/81	07/22/81
SAMPLED	07/21/81	07/21/81	07/21/81
FORMATION	PENN-ATOKA-ORR	PENN-ATOKA-PATTERSON	PENN-MORROW-CANNON
GEOLOGIC PROVINCE CODE	345	345	345
DEPTH, FEET	1418	1264	1580
WELLHEAD PRESSURE,PSIG	323	225	384
OPEN FLOW, MCFD	890	734	1300
COMPONENT, MOLE PCT			
METHANE	97.9	98.1	97.7
ETHANE	0.3	0.1	0.4
PROPANE	TRACE	TRACE	0.1
N-BUTANE	TRACE	0.0	0.0
ISOBUTANE	TRACE	0.0	0.0
N-PENTANE	TRACE	0.0	0.0
ISOPENTANE	0.0	0.0	0.0
CYCLOPENTANE	0.1	0.0	0.0
HEXANES PLUS	0.1	0.0	0.0
NITROGEN	1.4	1.5	1.6
OXYGEN	0.0	0.1	TRACE
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	TRACE	TRACE
HELIUM	0.11	0.12	0.12
HEATING VALUE*	1006	996	999
SPECIFIC GRAVITY	0.567	0.561	0.563

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 13 SAMPLE 16325	INDEX 14 SAMPLE 16327	INDEX 15 SAMPLE 16220
STATE	ARKANSAS	ARKANSAS	ARKANSAS
COUNTY	JOHNSON	JOHNSON	SCOTT
FIELD	KNOXVILLE	KNOXVILLE	MANSFIELD
WELL NAME	DIXON NO. 1	DIXON NO. 1	GLASS "C" NO. 1
LOCATION	SEC. 29, T9N, R22W	SEC. 29, T9N, R22W	SEC. 27, T5N, R30W
OWNER	OXLEY PETROLEUM CO.	OXLEY PETROLEUM CO.	TEXAS OIL & GAS CORP.
COMPLETED	08/29/81	08/29/81	01/15/81
SAMPLED	08/29/81	08/29/81	03/24/81
FORMATION	PENN-ALLEN	PENN-MCGUIRE	PENN-HARTFORD
GEOLOGIC PROVINCE CODE	345	345	345
DEPTH, FEET	6060	5784	6200
WELLHEAD PRESSURE,PSIG	1380	1430	1525
OPEN FLOW, MCFD	3961	2233	1500
COMPONENT, MOLE PCT			
METHANE	96.6	96.7	97.1
ETHANE	1.1	1.0	1.5
PROPANE	0.2	0.1	0.3
N-BUTANE	0.0	0.0	0.0
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	0.0
ISOPENTANE	0.0	0.0	0.0
CYCLOPENTANE	0.0	0.0	0.0
HEXANES PLUS	0.0	0.0	0.0
NITROGEN	0.4	0.6	0.4
OXYGEN	0.0	TRACE	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.4	1.3	0.7
HELIUM	0.18	0.17	0.09
HEATING VALUE*	1003	1000	1018
SPECIFIC GRAVITY	0.576	0.574	0.573

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 16 SAMPLE 16368	INDEX 17 SAMPLE 16369	INDEX 18 SAMPLE 16334
STATE	ARKANSAS	ARKANSAS	ARKANSAS
COUNTY	SEBASTIAN	SEBASTIAN	SEBASTIAN
FIELD	BONANZA	BONANZA	MASSARD
WELL NAME	KERSEY NO. 1	KERSEY NO. 1	AIRPORT '81 NO. 1
LOCATION	SEC. 4, T6N, R31W	SEC. 4, T6N, R31W	SEC. 34, T8N, R32W
OWNER	ARKLA EXPLORATION CO.	ARKLA EXPLORATION CO.	HANNA OIL AND GAS CO.
COMPLETED	04/20/81	04/20/81	04/28/81
SAMPLED	10/27/81	10/26/81	09/09/81
FORMATION	PENN-ATOKA A	PENN-ATOKA B	PENN-SPIRO & DEVO-PENTERS
GEOLOGIC PROVINCE CODE	345	345	345
DEPTH, FEET	9000	9000	5210
WELLHEAD PRESSURE,PSIG	1125	1170	3474
OPEN FLOW, MCFD	6196	153187	5276
COMPONENT, MOLE PCT			
METHANE	97.5	97.7	90.1
ETHANE	1.5	1.5	1.5
PROPANE	0.2	0.2	0.2
N-BUTANE	TRACE	0.0	0.0
ISOBUTANE	TRACE	0.0	0.0
N-PENTANE	TRACE	0.0	0.0
ISOPENTANE	TRACE	0.0	0.0
CYCLOPENTANE	TRACE	0.0	0.0
HEXANES PLUS	0.1	0.0	0.0
NITROGEN	0.2	0.2	7.1
OXYGEN	0.0	0.0	TRACE
ARGON	0.0	TRACE	0.1
HYDROGEN	TRACE	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.4	0.4	0.6
HELIUM	0.05	0.05	0.30
HEATING VALUE*	1025	1022	945
SPECIFIC GRAVITY	0.570	0.569	0.598

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 19 SAMPLE 16255	INDEX 20 SAMPLE 16222	INDEX 21 SAMPLE 16226
STATE	CALIFORNIA	CALIFORNIA	CALIFORNIA
COUNTY	COLUSA	CONTRA COSTA	CONTRA COSTA
FIELD	GRIMES	BRENTWOOD E	RIVER BREAK
WELL NAME	POUNDSTONE NO. 24-1	WESTERN-ENOS-NUNN NO. 1	AUDREY SMITH NO. 1
LOCATION	SEC. 24, T14N, R1W	SEC. 8, T1N, R3E	SEC. 35, T2N, R2E
OWNER	TENNECO OIL CO.	NATURAL GAS CORP. OF CALIF.	WESTERN CONTINENTAL CO.
COMPLETED	12/01/80	03/28/80	09/06/80
SAMPLED	05/01/81	03/27/81	04/06/81
FORMATION	CRET-FORBES	EOCE-MEGANOS	TERT-MASSIVE
GEOLOGIC PROVINCE CODE	730	730	730
DEPTH, FEET	6979	8230	5416
WELLHEAD PRESSURE,PSIG	3200	2300	NOT GIVEN
OPEN FLOW, MCFD	2000	28000	3500
COMPONENT, MOLE PCT			
METHANE	98.9	92.7	93.4
ETHANE	0.3	3.8	3.6
PROPANE	TRACE	1.3	1.2
N-BUTANE	0.0	0.3	0.3
ISOBUTANE	0.0	0.2	0.2
N-PENTANE	0.0	TRACE	TRACE
ISOPENTANE	0.0	0.3	0.2
CYCLOPENTANE	0.0	0.1	0.1
HEXANES PLUS	0.0	0.1	0.1
NITROGEN	0.7	0.8	0.9
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.4	0.1
HELIUM	TRACE	TRACE	TRACE
HEATING VALUE*	1007	1079	1076
SPECIFIC GRAVITY	0.560	0.611	0.605

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 22 SAMPLE 16225	INDEX 23 SAMPLE 16319	INDEX 24 SAMPLE 16328
STATE	CALIFORNIA	COLORADO	COLORADO
COUNTY	YOLO	ARAPAHOE	BENT
FIELD	MILLAR	POLLEN	MCCLAVE
WELL NAME	ARCO-MOUND FARMS NO. 1	PRITCHETTE GREEN A NO. 1	KICKING BIRD NO. 21-16
LOCATION	SEC. 17, T6N, R3E	SEC. 8, T4S, R62W	SEC.16,T21S,R48W
OWNER	HILLIARD OIL & GAS, INC.	AMOCO PRODUCTION CO.	MRT EXPLORATION CO.
COMPLETED	10/01/79	05/--/80	NOT GIVEN
SAMPLED	04/03/81	08/20/81	09/01/81
FORMATION	CRET-WINTERS	CRET-MUDDY J	PENN-MORROW
GEOLOGIC PROVINCE CODE	730	540	450
DEPTH, FEET	7649	7400	4719
WELLHEAD PRESSURE,PSIG	2654	NOT GIVEN	920
OPEN FLOW, MCFD	3512	2500	2283
COMPONENT, MOLE PCT			
METHANE	82.8	57.9	69.1
ETHANE	0.8	15.7	12.2
PROPANE	0.1	13.9	5.7
N-BUTANE	TRACE	4.2	1.2
ISOBUTANE	TRACE	1.6	0.7
N-PENTANE	0.0	0.8	0.2
ISOPENTANE	0.1	1.0	0.4
CYCLOPENTANE	TRACE	0.2	0.1
HEXANES PLUS	TRACE	0.4	0.2
NITROGEN	16.0	1.7	9.3
OXYGEN	TRACE	TRACE	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	2.5	0.5
HELIUM	TRACE	0.01	0.27
HEATING VALUE*	860	1529	1170
SPECIFIC GRAVITY	0.628	0.939	0.760

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 25 SAMPLE 16231	INDEX 26 SAMPLE 16262	INDEX 27 SAMPLE 16215
STATE	COLORADO	COLORADO	COLORADO
COUNTY	CHEYENNE	JACKSON	LOGAN
FIELD	SORRENTO	MCCALLUM S	BIG SANDY
WELL NAME	MCCORMICK NO. 3	CONOCO-FEDERAL NO. 21-6	BUDIN NO. 15
LOCATION	SEC. 9, T14S, R49W	SEC. 21, T9N, R78W	SEC. 2, T8N, R55W
OWNER	CHAMPLIN PETROLEUM CO.	CONOCO INC.	OKMAR OIL CO.
COMPLETED	10/--/80	01/23/81	01/24/79
SAMPLED	04/06/81	05/21/81	03/--/81
FORMATION	PENN-MORROW	CRET-MUDDY & DAKOTA	CRET-DAKOTA J
GEOLOGIC PROVINCE CODE	450	545	540
DEPTH, FEET	5450	5538	5312
WELLHEAD PRESSURE,PSIG	NOT GIVEN	710	1003
OPEN FLOW, MCFD	NOT GIVEN	2000	2341
COMPONENT, MOLE PCT			
METHANE	38.7	3.6	77.2
ETHANE	9.5	0.2	9.3
PROPANE	9.2	0.1	5.2
N-BUTANE	3.3	0.1	1.5
ISOBUTANE	1.2	TRACE	0.7
N-PENTANE	0.8	TRACE	0.3
ISOPENTANE	0.8	0.0	0.6
CYCLOPENTANE	0.2	0.1	0.1
HEXANES PLUS	0.4	0.1	0.3
NITROGEN	33.5	3.7	3.3
OXYGEN	TRACE	0.3	0.0
ARGON	0.2	0.1	TRACE
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.6	91.8	1.5
HELIUM	1.46	0.17	0.06
HEATING VALUE*	1049	55	1215
SPECIFIC GRAVITY	0.945	1.475	0.741

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 28 SAMPLE 16173	INDEX 29 SAMPLE 16219	INDEX 30 SAMPLE 16280
STATE	COLORADO	COLORADO	COLORADO
COUNTY	MESA	MESA	MOFFAT
FIELD	CANYON S	PLATEAU	CRAIG N
WELL NAME	FEES USA NO. 29-8	WILSON NO. 2	COTTON GULCH FEDERAL C NO. 1
LOCATION	SEC. 29, T8S,R104W	SEC. 29, T10S, R96W	SEC. 35, T8N, R91W
OWNER	TENNECO OIL CO.	COORS ENERGY CO.	ANADARKO PRODUCTION CO.
COMPLETED	08/25/80	10/16/80	06/09/81
SAMPLED	01/13/81	04/01/81	06/09/81
FORMATION	CRET-DAKOTA	CRET-CORCORAN	CRET-LEWIS
GEOLOGIC PROVINCE CODE	595	595	535
DEPTH, FEET	3312	3049	3540
WELLHEAD PRESSURE,PSIG	800	950	1000
OPEN FLOW, MCFD	3821	2400	8430
COMPONENT, MOLE PCT			
METHANE	71.3	91.9	93.5
ETHANE	2.4	3.6	3.0
PROPANE	0.4	1.2	1.0
N-BUTANE	0.2	0.3	0.3
ISOBUTANE	0.1	0.2	0.2
N-PENTANE	0.1	0.1	0.1
ISOPENTANE	TRACE	0.2	0.1
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.1	0.1	0.1
NITROGEN	24.1	0.3	1.6
OXYGEN	0.0	0.0	TRACE
ARGON	0.1	TRACE	TRACE
HYDROGEN	TRACE	0.1	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	2.0	TRACE
HELIUM	0.74	0.01	0.01
HEATING VALUE*	795	1062	1057
SPECIFIC GRAVITY	0.678	0.620	0.599

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 31 SAMPLE 16353	INDEX 32 SAMPLE 16211	INDEX 33 SAMPLE 16342
STATE	COLORADO	COLORADO	COLORADO
COUNTY	MOFFAT	MOFFAT	YUMA
FIELD	HIAWATHA E	SHELL CREEK	ECKLEY
WELL NAME	HIAWATHA UNIT NO. 1	SHELL CREEK NO. 2	ECKLEY FEDERAL NO. 31-1
LOCATION	SEC. 22, T12N, R100W	SEC. 27, T12N, R99W	SEC. 31, T4N, R45W
OWNER	WEXPRO CO.	CHAMPLIN PETROLEUM CO.	MESA PETROLEUM CO.
COMPLETED	04/08/80	01/--/77	06/24/81
SAMPLED	10/14/81	03/18/81	09/25/81
FORMATION	JURA-NUGGET	JURA-NUGGET	CRET-NIOBRARA
GEOLOGIC PROVINCE CODE	535	535	540
DEPTH, FEET	14376	17411	2477
WELLHEAD PRESSURE,PSIG	4200	5300	520
OPEN FLOW, MCFD	10935	11000	2300
COMPONENT, MOLE PCT			
METHANE	93.2	96.0	94.4
ETHANE	0.4	0.1	0.9
PROPANE	0.2	TRACE	0.1
N-BUTANE	0.0	0.0	0.2
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	0.0
ISOPENTANE	0.0	0.0	0.1
CYCLOPENTANE	0.0	0.0	0.1
HEXANES PLUS	0.0	0.0	TRACE
NITROGEN	1.0	0.7	3.7
OXYGEN	0.1	0.1	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	5.3	3.1	0.5
HELIUM	0.03	0.02	0.08
HEATING VALUE*	956	974	990
SPECIFIC GRAVITY	0.616	0.589	0.587

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 34 SAMPLE 16378	INDEX 35 SAMPLE 16179	INDEX 36 SAMPLE 13471
STATE	COLORADO	KANSAS	KANSAS
COUNTY	YUMA	BARBER	BARBER
FIELD	NOT GIVEN	DEERHEAD	DEGEER W
WELL NAME	LENGEL NO. 13-14	MILLS "R" NO. 1	BRASS NO. 1
LOCATION	SEC. 24, T5S, R44W	SEC. 27, T32S, R15W	SEC. 5, T33S, R15W
OWNER	CABOT PETROLEUM CORP.	RAYMOND OIL CO., INC.	CHAMPLIN PETROLEUM CO.
COMPLETED	07/29/81	04/30/80	01/14/71
SAMPLED	11/12/81	01/27/81	11/10/72
FORMATION	CRET-NIOBRARA	PENN-TOPEKA	ORDO-VIOLA
GEOLOGIC PROVINCE CODE	540	375	375
DEPTH, FEET	1328	3500	4751
WELLHEAD PRESSURE,PSIG	331	1553	310
OPEN FLOW, MCFD	2200	2200	1550
COMPONENT, MOLE PCT			
METHANE	91.5	86.8	81.2
ETHANE	1.4	4.1	6.3
PROPANE	0.5	1.7	3.8
N-BUTANE	0.1	0.6	1.7
ISOBUTANE	0.1	0.3	0.8
N-PENTANE	TRACE	0.2	0.7
ISOPENTANE	0.1	0.2	0.3
CYCLOPENTANE	TRACE	0.1	0.1
HEXANES PLUS	TRACE	0.2	0.4
NITROGEN	4.6	5.4	4.3
OXYGEN	0.0	0.2	TRACE
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.6	0.1	0.1
HELIUM	0.07	0.19	0.17
HEATING VALUE*	976	1058	1185
SPECIFIC GRAVITY	0.605	0.644	0.710

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 37 SAMPLE 16302	INDEX 38 SAMPLE 16354	INDEX 39 SAMPLE 16303
STATE	KANSAS	KANSAS	KANSAS
COUNTY	BARBER	BARBER	CLARK
FIELD	HARDING W	SAWER	WILDCAT
WELL NAME	JEWEL "A" NO. 1	LEVENS NO. 3	TUTTLE NO. 11-116
LOCATION	SEC. 6, T30S, R11W	SEC. 1, T30S, R13W	SEC. 13, T35S, R21W
OWNER	CITIES SERVICE CO.	CARL TODD	KENNEDY & MITCHELL, INC.
COMPLETED	05/20/80	05/04/81	NOT GIVEN
SAMPLED	08/03/81	10/14/81	08/07/81
FORMATION	PERM-INDIAN CAVE	PERM-INDIAN CAVE	PENN-MORROW
GEOLOGIC PROVINCE CODE	375	375	360
DEPTH, FEET	2754	2782	5577
WELLHEAD PRESSURE,PSIG	918	965	464
OPEN FLOW, MCFD	2437	6193	3009
COMPONENT, MOLE PCT			
METHANE	88.8	82.0	90.5
ETHANE	3.9	3.0	3.5
PROPANE	1.6	1.3	1.5
N-BUTANE	0.5	0.4	0.5
ISOBUTANE	0.3	0.2	0.3
N-PENTANE	0.2	0.1	0.2
ISOPENTANE	0.1	0.1	0.2
CYCLOPENTANE	0.1	TRACE	0.1
HEXANES PLUS	0.2	0.1	0.3
NITROGEN	4.1	12.3	2.5
OXYGEN	0.0	TRACE	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.1	0.2
HELIUM	0.19	0.42	0.11
HEATING VALUE*	1065	952	1082
SPECIFIC GRAVITY	0.632	0.648	0.627

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 40 SAMPLE 16209	INDEX 41 SAMPLE 16355	INDEX 42 SAMPLE 16246
STATE	KANSAS	KANSAS	KANSAS
COUNTY	EDWARDS	EDWARDS	EDWARDS
FIELD	MASSEY	WILDCAT	WILL S
WELL NAME	TWITCHELL NO. 1-2	E. SCHALLER NO. 1	SCHULTZ D NO. 1
LOCATION	SEC. 2, T24S, R17W	SEC. 16, T25S, R18W	SEC. 16, T26S, R16W
OWNER	F. G. HOLL	BRUNSON-SPINES, INC.	BENSON MINERALS GROUP, INC.
COMPLETED	06/04/80	08/22/81	NOT GIVEN
SAMPLED	03/13/80	10/20/81	04/22/81
FORMATION	MISS-CONGLOMERATE	MISS-CHERT	MISS-KINDERHOOK
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	4239	4588	4450
WELLHEAD PRESSURE,PSIG	1185	1100	NOT GIVEN
OPEN FLOW, MCFD	3876	1500	700
COMPONENT, MOLE PCT			
METHANE	86.9	84.4	80.5
ETHANE	3.4	3.3	4.2
PROPANE	1.3	1.1	1.8
N-BUTANE	0.4	0.4	0.5
ISOBUTANE	0.2	0.2	0.3
N-PENTANE	0.1	0.1	0.2
ISOPENTANE	0.1	0.1	0.2
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	0.1	0.2	0.2
NITROGEN	6.5	9.4	10.8
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.2	0.2
HELIUM	0.73	0.45	1.00
HEATING VALUE*	1013	985	995
SPECIFIC GRAVITY	0.626	0.640	0.662

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 43 SAMPLE 16210	INDEX 44 SAMPLE 16333	INDEX 45 SAMPLE 16389
STATE	KANSAS	KANSAS	KANSAS
COUNTY	ELLSWORTH	KINGMAN	KINGMAN
FIELD	KANAK	CHICK	WILDCAT
WELL NAME	KANAK NO. 1	DEWEY NO. 1	FUNKE-BERGH NO. 1
LOCATION	SEC. 22, T16S, R7W	SEC. 15, T30S, R6W	SEC. 6, T29S, R8W
OWNER	RESOURCES INVESTMENT CORP.	RAYMOND OIL CO.	RAYMOND OIL CO.
COMPLETED	NOT GIVEN	NOT GIVEN	08/21/81
SAMPLED	03/--/81	06/30/81	11/16/81
FORMATION	PERM-INDIAN CAVE	PERM-INDIAN CAVE	PERM-INDIAN CAVE
GEOLOGIC PROVINCE CODE	385	375	375
DEPTH, FEET	1732	1960	2358
WELLHEAD PRESSURE,PSIG	NOT GIVEN	200	900
OPEN FLOW, MCFD	3350	30000	2500
COMPONENT, MOLE PCT			
METHANE	55.9	60.0	78.4
ETHANE	1.9	2.4	3.4
PROPANE	0.8	1.3	1.7
N-BUTANE	0.2	0.3	0.5
ISOBUTANE	0.1	0.2	0.3
N-PENTANE	0.1	TRACE	0.2
ISOPENTANE	TRACE	0.1	0.1
CYCLOPENTANE	TRACE	TRACE	0.1
HEXANES PLUS	TRACE	TRACE	0.1
NITROGEN	39.3	34.7	14.9
OXYGEN	0.0	0.0	0.0
ARGON	0.1	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	TRACE	0.1	0.0
HELIUM	1.40	0.90	0.48
HEATING VALUE*	635	706	948
SPECIFIC GRAVITY	0.734	0.729	0.671

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 46 SAMPLE 16309	INDEX 47 SAMPLE 16332	INDEX 48 SAMPLE 16239
STATE	KANSAS	KANSAS	KANSAS
COUNTY	KIOWA	PAWNEE	PRATT
FIELD	NOT GIVEN	MASSEY W	HARDING
WELL NAME	FATZER NO. 1	ALDRICH "B" NO 1-32	COSS A NO. 1
LOCATION	SEC. 22, T27S, R17W	SEC. 32, T23S, R17W	SEC. 31, T29S, R11W
OWNER	STELBAR OIL CORP., INC.	F. G. HOLL	ANADARKO PRODUCTION CO.
COMPLETED	12/11/80	12/12/80	NOT GIVEN
SAMPLED	08/--/81	08/--/81	04/21/81
FORMATION	MISS-KINDERHOOK	MISS-	PERM-WICHITA-ALBANY
GEOLOGIC PROVINCE CODE	360	385	385
DEPTH, FEET	4679	4318	2748
WELLHEAD PRESSURE,PSIG	1381	1035	700
OPEN FLOW, MCFD	5400	2081	1500
COMPONENT, MOLE PCT			
METHANE	80.1	82.6	87.0
ETHANE	3.2	3.5	3.6
PROPANE	1.4	1.3	1.3
N-BUTANE	0.5	0.4	0.3
ISOBUTANE	0.3	0.2	0.1
N-PENTANE	0.2	0.1	0.1
ISOPENTANE	0.1	0.1	0.1
CYCLOPENTANE	0.1	0.1	TRACE
HEXANES PLUS	0.3	0.2	0.1
NITROGEN	12.5	10.2	7.0
OXYGEN	0.5	0.0	0.0
ARGON	0.1	0.1	TRACE
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	0.1	0.1
HELIUM	0.73	1.00	0.25
HEATING VALUE*	964	976	1007
SPECIFIC GRAVITY	0.667	0.644	0.626

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 49 SAMPLE 16361	INDEX 50 SAMPLE 16358	INDEX 51 SAMPLE 16282
STATE	KANSAS	KANSAS	KANSAS
COUNTY	PRATT	PRATT	SEWARD
FIELD	WIL	WILDCAT	PLAINS W
WELL NAME	WOOD NO. 2	HEALY FAMILY FARMS NO. 1	BECK NO. 1-9
LOCATION	SEC. 18, T26S, R15W	SEC. 5, T28S, R15W	SEC. 9, T32S, R31W
OWNER	BEREN CORP.	BRUNSON-SPINES INC.	MESA PETROLEUM CO.
COMPLETED	08/20/80	07/16/81	03/14/81
SAMPLED	10/20/81	10/20/81	06/16/81
FORMATION	MISS-	PENN-CHEROKEE	PENN-MORROW
GEOLOGIC PROVINCE CODE	385	385	360
DEPTH, FEET	4352	4576	5564
WELLHEAD PRESSURE,PSIG	1070	1360	1500
OPEN FLOW, MCFD	3650	3500	1000
COMPONENT, MOLE PCT			
METHANE	87.9	79.7	79.0
ETHANE	4.0	3.8	5.8
PROPANE	1.6	1.8	3.6
N-BUTANE	0.5	0.8	1.1
ISOBUTANE	0.2	0.6	0.6
N-PENTANE	0.2	0.6	0.3
ISOPENTANE	0.2	0.5	0.3
CYCLOPENTANE	TRACE	0.2	0.1
HEXANES PLUS	0.1	0.7	0.2
NITROGEN	4.6	10.1	8.6
OXYGEN	0.0	0.6	TRACE
ARGON	TRACE	0.1	TRACE
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.1	0.1
HELIUM	0.53	0.37	0.19
HEATING VALUE*	1049	1060	1095
SPECIFIC GRAVITY	0.628	0.700	0.698

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 52 SAMPLE 16180	INDEX 53 SAMPLE 16172	INDEX 54 SAMPLE 16185
STATE	KANSAS	LOUISIANA	LOUISIANA
COUNTY	SEWARD	ALLEN	BOSSIER
FIELD	THIRTY ONE	INDIAN VILLAGE N	ARKANA
WELL NAME	SATTERFIELD NO. 2	POWELL LUMBER CO. NO. 1	WILLIAMETTE NO. 1
LOCATION	SEC. 13, T31S, R32W	SEC. 8, T7S, R6W	SEC. 8, T23N, R13W
OWNER	NORTHERN PUMP CO.	WAINOCO OIL & GAS CO.	CRYSTAL OIL CO.
COMPLETED	06/16/80	05/12/80	NOT GIVEN
SAMPLED	01/27/81	01/15/81	02/09/81
FORMATION	PENN-MORROW & MISS-CHESTER	-6150 FT. SAND	JURA-HAYNESVILLE
GEOLOGIC PROVINCE CODE	360	220	230
DEPTH, FEET	5465	6180	10689
WELLHEAD PRESSURE,PSIG	1324	2335	1000
OPEN FLOW, MCFD	2617	390	20
COMPONENT, MOLE PCT			
METHANE	80.3	97.5	80.2
ETHANE	5.7	1.1	7.0
PROPANE	3.0	0.1	2.9
N-BUTANE	0.8	TRACE	1.0
ISOBUTANE	0.5	TRACE	0.9
N-PENTANE	0.2	0.0	0.3
ISOPENTANE	0.2	TRACE	0.3
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.2	0.1	0.3
NITROGEN	8.5	0.9	3.7
OXYGEN	0.4	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.2	3.3
HELIUM	0.16	0.01	0.02
HEATING VALUE*	1065	1015	1118
SPECIFIC GRAVITY	0.683	0.568	0.713

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 55 SAMPLE 16275	INDEX 56 SAMPLE 16264	INDEX 57 SAMPLE 16175
STATE	LOUISIANA	LOUISIANA	LOUISIANA
PARISH	CALDWELL	E. BATON ROUGE	JACKSON
FIELD	SPAULDING	PROFIT ISLAND	VERNON
WELL NAME	PIONEER #1	TRANSMATCH NO. 1	WILLIAMETTE NO. 1
LOCATION	SEC. 13, T11N, R2E	SEC. 22, T5S, R2W	SEC. 33, T17N, R2W
OWNER	LYONS PETROLEUM, INC.	HUNT PETROLEUM CORP.	WESSELY ENERGY CORP.
COMPLETED	05/27/81	04/15/81	NOT GIVEN
SAMPLED	05/27/81	05/21/81	01/23/81
FORMATION	NOT GIVEN	CRET-TUSCALOOSA	NOT GIVEN
GEOLOGIC PROVINCE CODE	230	220	230
DEPTH, FEET	NOT GIVEN	19069	NOT GIVEN
WELLHEAD PRESSURE,PSIG	1000	8420	NOT GIVEN
OPEN FLOW, MCFD	185	13000	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	97.1	83.0	95.9
ETHANE	0.1	6.1	0.3
PROPANE	TRACE	1.8	TRACE
N-BUTANE	0.0	0.4	TRACE
ISOBUTANE	0.0	0.6	TRACE
N-PENTANE	0.0	0.2	TRACE
ISOPENTANE	0.0	0.3	0.0
CYCLOPENTANE	0.0	0.1	TRACE
HEXANES PLUS	0.0	0.3	0.1
NITROGEN	2.5	0.3	2.0
OXYGEN	0.0	TRACE	0.0
ARGON	TRACE	0.0	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	6.9	1.5
HELIUM	0.03	TRACE	0.05
HEATING VALUE*	985	1071	982
SPECIFIC GRAVITY	0.568	0.705	0.580

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 58 SAMPLE 16283	INDEX 59 SAMPLE 16252	INDEX 60 SAMPLE 16400
STATE	LOUISIANA	LOUISIANA	LOUISIANA
PARISH	LASALLE	LIVINGSTON	RED RIVER
FIELD	SEARCY N	WATSON	ALPHA
WELL NAME	IPB NO. 6	H. E. CARAWAY NO. 1	CHARLES BEACH NO. 1
LOCATION	SEC. 4, T8N, R2E	SEC. 22, T5S, R3E	SEC. 34, T12N, R8W
OWNER	PLACID OIL CO.	SHELL OIL CO., ET AL.	AMERADA HESS CORP.
COMPLETED	10/31/80	11/17/80	08/10/80
SAMPLED	06/15/81	05/07/81	12/23/81
FORMATION	EOCE-WILCOX	CRET-TUSCALOOSA	CRET-HOSSTON
GEOLOGIC PROVINCE CODE	230	220	230
DEPTH, FEET	2810	15630	9353
WELLHEAD PRESSURE,PSIG	1300	2150	4800
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	97.1	64.5	96.7
ETHANE	0.2	14.0	0.2
PROPANE	TRACE	8.6	TRACE
N-BUTANE	TRACE	1.8	0.0
ISOBUTANE	TRACE	1.4	0.0
N-PENTANE	TRACE	0.3	0.0
ISOPENTANE	0.0	0.5	0.0
CYCLOPENTANE	TRACE	0.1	0.0
HEXANES PLUS	0.1	0.2	0.0
NITROGEN	1.5	1.5	0.7
OXYGEN	TRACE	TRACE	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.0	7.3	2.4
HELIUM	0.02	0.01	0.02
HEATING VALUE*	992	1283	983
SPECIFIC GRAVITY	0.573	0.859	0.582

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 61 SAMPLE 16357	INDEX 62 SAMPLE 16199	INDEX 63 SAMPLE 15294
STATE	LOUISIANA	LOUISIANA	LOUISIANA
PARISH	RED RIVER	RICHLAND	TERREBONNE
FIELD	MARTIN	SACKSONIA	MONTEGUT NE
WELL NAME	TEER NO. 1	MAY A. LINTON ET AL. NO. 1	ELLENDER NO. 1
LOCATION	SEC. 19, T13N, R8W	SEC. 11, T17N, R8E	SEC. 57, T18S, R19E
OWNER	PIONEER PRODUCTION CORP.	HUNT ENERGY CORP.	GOLDKING PRODUCTION CO.
COMPLETED	03/18/81	08/31/80	10/20/77
SAMPLED	10/10/81	02/24/81	05/--/78
FORMATION	NOT GIVEN	CRET-RODESSA	NOT GIVEN
GEOLOGIC PROVINCE CODE	230	230	220
DEPTH, FEET	11405	2858	11674
WELLHEAD PRESSURE,PSIG	NOT GIVEN	1272	NOT GIVEN
OPEN FLOW, MCFD	NOT GIVEN	889	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	94.3	93.5	95.2
ETHANE	0.2	0.2	2.2
PROPANE	0.1	TRACE	0.9
N-BUTANE	0.0	TRACE	0.3
ISOBUTANE	0.0	0.1	0.3
N-PENTANE	0.0	0.0	0.1
ISOPENTANE	0.0	0.3	0.1
CYCLOPENTANE	0.0	0.2	0.1
HEXANES PLUS	0.0	0.2	0.2
NITROGEN	0.1	5.4	0.3
OXYGEN	TRACE	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	5.3	TRACE	0.3
HELIUM	0.01	0.09	TRACE
HEATING VALUE*	961	985	1070
SPECIFIC GRAVITY	0.608	0.593	0.598

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 64 SAMPLE 16276	INDEX 65 SAMPLE 16399	INDEX 66 SAMPLE 16188
STATE	LOUISIANA	LOUISIANA	MICHIGAN
PARISH	VERMILION	VERMILION	EATON
FIELD	ESTHER	LAC BLANC	EATON RAPIDS
WELL NAME	SAGRERA HEIRS NO. 4	STATE LEASE 3057 NO 40	GETTER NO. 3-17
LOCATION	SEC. 18, T14S, R3E	SEC. 19, T15S, R1E	SEC. 17, T2N, R3W
OWNER	AMERADA HESS CORP.	SUPERIOR OIL COMPANY	AMOCO PRODUCTION CO.
COMPLETED	02/14/81	03/13/81	09/04/79
SAMPLED	06/05/81	12/18/81	02/13/81
FORMATION	MIOC-14060 SAND	MIOC-75 SAND	SILU-NIAGARA
GEOLOGIC PROVINCE CODE	220	220	305
DEPTH, FEET	14040	14930	4064
WELLHEAD PRESSURE,PSIG	9400	7600	1683
OPEN FLOW, MCFD	3000	8084	9300
COMPONENT, MOLE PCT			
METHANE	94.8	82.3	79.9
ETHANE	2.7	5.2	7.6
PROPANE	0.8	4.0	3.3
N-BUTANE	0.2	1.3	0.8
ISOBUTANE	0.1	2.1	0.8
N-PENTANE	0.1	0.7	0.2
ISOPENTANE	0.1	0.9	0.2
CYCLOPENTANE	TRACE	0.3	0.1
HEXANES PLUS	0.1	1.2	0.2
NITROGEN	0.3	0.7	6.3
OXYGEN	0.0	TRACE	TRACE
ARGON	TRACE	0.0	TRACE
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.8	1.2	0.4
HELIUM	TRACE	TRACE	0.09
HEATING VALUE*	1053	1286	1116
SPECIFIC GRAVITY	0.596	0.751	0.693

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 67 SAMPLE 16367	INDEX 68 SAMPLE 16203	INDEX 69 SAMPLE 16253
STATE	MICHIGAN	MISSISSIPPI	MISSISSIPPI
COUNTY	GRAND TRAVERSE	COPIAH	JASPER
FIELD	MAYFIELD	GLANCY	HEIDELBERG W
WELL NAME	NICKERSON NO. 1	INT. PAPER CO. NO. 2	COTTON VALLEY UNIT 5-5-2
LOCATION	SEC. 1, T25N, R11W	SEC. 6, T9N, R7E	SEC. 5, T10N, R10W
OWNER	TRAVERSE OIL CO.	KILROY CO. OF AMERICA	GULF OIL EXPL. & PROD. CO.
COMPLETED	01/29/80	NOT GIVEN	01/23/81
SAMPLED	10/30/81	03/01/81	05/06/81
FORMATION	SILU-NIAGARAN	NOT GIVEN	JURA-COTTON VALLEY
GEOLOGIC PROVINCE CODE	305	210	210
DEPTH, FEET	6450	NOT GIVEN	11290
WELLHEAD PRESSURE,PSIG	2400	2100	2000
OPEN FLOW, MCFD	5000	NOT GIVEN	2895
COMPONENT, MOLE PCT			
METHANE	81.0	85.1	0.7
ETHANE	10.2	2.8	0.2
PROPANE	4.3	1.0	0.1
N-BUTANE	1.1	0.3	0.1
ISOBUTANE	1.3	0.3	TRACE
N-PENTANE	0.3	0.1	TRACE
ISOPENTANE	0.4	0.1	TRACE
CYCLOPENTANE	TRACE	0.1	TRACE
HEXANES PLUS	0.2	0.2	0.1
NITROGEN	1.1	3.7	85.1
OXYGEN	TRACE	0.6	0.1
ARGON	TRACE	TRACE	1.0
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	5.7	12.4
HELIUM	0.01	0.03	TRACE
HEATING VALUE*	1236	981	22
SPECIFIC GRAVITY	0.708	0.672	1.040

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 70 SAMPLE 16273	INDEX 71 SAMPLE 16289	INDEX 72 SAMPLE 16376
STATE	MISSISSIPPI	MISSISSIPPI	MISSISSIPPI
COUNTY	MARION	MARION	YAZOO
FIELD	GREEN CREEK	SANDY HOOK	MECHANICSBURG
WELL NAME	ROGERS 28-11 NO. 1	GAS UNIT NO. 28-1	WILLIAMS ESTATE NO. 2
LOCATION	SEC. 28, T5N, R19W	SEC. 16, T1N, R14E	SEC. 9, T9N, R3W
OWNER	GETTY OIL CO.	EXXON CO., U.S.A.	CARDELL-TLAPEK CO.
COMPLETED	04/26/80	03/19/80	07/28/81
SAMPLED	05/30/81	06/29/81	11/06/81
FORMATION	-HARPER-5	CRET-JAMES	JURA-COTTON VALLEY
GEOLOGIC PROVINCE CODE	210	210	210
DEPTH, FEET	16150	14330	12552
WELLHEAD PRESSURE,PSIG	4600	7400	750
OPEN FLOW, MCFD	7000	3250	4000
COMPONENT, MOLE PCT			
METHANE	92.2	94.8	89.3
ETHANE	0.4	0.2	3.1
PROPANE	0.1	TRACE	1.0
N-BUTANE	0.1	0.0	0.4
ISOBUTANE	0.1	0.0	0.3
N-PENTANE	TRACE	0.0	0.2
ISOPENTANE	TRACE	0.0	0.1
CYCLOPENTANE	TRACE	0.0	TRACE
HEXANES PLUS	0.1	0.0	0.2
NITROGEN	1.4	1.0	0.7
OXYGEN	TRACE	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	5.5	3.9	4.6
HELIUM	0.02	0.02	0.02
HEATING VALUE*	956	964	1033
SPECIFIC GRAVITY	0.622	0.597	0.648

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 73 SAMPLE 16192	INDEX 74 SAMPLE 16256	INDEX 75 SAMPLE 16214
STATE	MONTANA	MONTANA	MONTANA
COUNTY	BLAINE	PONDERA	TOOLE
FIELD	SHERARD	HARDPAN	WILLOW RIDGE
WELL NAME	U.S. NO. 6-15	ANDERSON NO. 1	STATE 17079 NO. 1
LOCATION	SEC. 6, T25N, R18E	SEC. 27, T27N, R2E	SEC. 5, T34N, R2E
OWNER	TRICENTROL U.S., INC.	D.A.S.RESOURCE VENTURES INC	CROFT PETROLEUM CO.
COMPLETED	NOT GIVEN	05/09/79	04/20/80
SAMPLED	02/19/81	04/29/81	03/23/81
FORMATION	CRET-EAGLE	CRET-BOW ISLAND	JURA-SWIFT
GEOLOGIC PROVINCE CODE	395	500	500
DEPTH, FEET	1580	900	1794
WELLHEAD PRESSURE,PSIG	460	200	260
OPEN FLOW, MCFD	NOT GIVEN	1800	3000
COMPONENT, MOLE PCT			
METHANE	95.5	87.7	92.6
ETHANE	0.3	0.4	1.9
PROPANE	TRACE	0.1	1.1
N-BUTANE	0.0	0.0	0.4
ISOBUTANE	TRACE	0.0	0.2
N-PENTANE	0.0	0.0	0.1
ISOPENTANE	0.1	0.0	0.1
CYCLOPENTANE	0.1	0.0	TRACE
HEXANES PLUS	0.1	0.0	0.1
NITROGEN	3.9	11.4	2.5
OXYGEN	0.0	0.1	TRACE
ARGON	TRACE	0.1	TRACE
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	TRACE	0.1	0.9
HELIUM	0.06	0.15	0.04
HEATING VALUE*	986	898	1035
SPECIFIC GRAVITY	0.578	0.607	0.609

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 76 SAMPLE 16372	INDEX 77 SAMPLE 16329	INDEX 78 SAMPLE 16251
STATE	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY	CHAVES	EDDY	EDDY
FIELD	WHITE RANCH	CULEBRA BLUFF	NOT GIVEN
WELL NAME	WHITE RANCH NO. 1	FEDERAL NEL COM NO.1	LAKE MCMILLAN FED. NO. 1
LOCATION	SEC. 8, T13S, R30E	SEC. 9, T23S, R28E	SEC. 30, T19S, R27E
OWNER	DEPCO, INC.	POGO PRODUCING CO.	GULF OIL CORP.
COMPLETED	02/--/81	03/21/81	10/18/80
SAMPLED	10/28/81	09/05/81	04/24/81
FORMATION	PENN-ATOKA	PENN-ATOKA	PERM-WOLFCAMP
GEOLOGIC PROVINCE CODE	430	430	430
DEPTH, FEET	NOT GIVEN	6530	7870
WELLHEAD PRESSURE,PSIG	2100	6600	1660
OPEN FLOW, MCFD	545000	8195	5971
COMPONENT, MOLE PCT			
METHANE	79.2	96.9	77.9
ETHANE	9.6	1.7	13.1
PROPANE	5.5	0.2	4.6
N-BUTANE	1.6	0.1	1.0
ISOBUTANE	0.7	TRACE	0.4
N-PENTANE	0.3	TRACE	0.2
ISOPENTANE	0.5	TRACE	0.2
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.2	0.1	0.1
NITROGEN	1.9	0.6	2.3
OXYGEN	0.0	0.0	0.1
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	0.4	0.1
HELIUM	0.06	0.02	0.03
HEATING VALUE*	1243	1026	1213
SPECIFIC GRAVITY	0.725	0.575	0.708

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 79 SAMPLE 16370	INDEX 80 SAMPLE 16371	INDEX 81 SAMPLE 16241
STATE	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY	EDDY	EDDY	EDDY
FIELD	SAND POINT	SAND POINT	WILDCAT
WELL NAME	BIG EDDY UNIT NO. 72	BIG EDDY UNIT NO. 72	LAGUNA GRANDE UNIT NO. 3
LOCATION	SEC. 3, T21S, R28E	SEC. 3, T21S, R28E	SEC. 29, T23S, R29E
OWNER	PERRY R. BASS	PERRY R. BASS	EXXON CO., U.S.A.
COMPLETED	05/30/80	05/30/80	03/03/81
SAMPLED	11/04/81	NOT GIVEN	04/26/81
FORMATION	PENN-MORROW	PENN-ATOKA	PENN-ATOKA
GEOLOGIC PROVINCE CODE	430	430	430
DEPTH, FEET	11674	11265	12104
WELLHEAD PRESSURE,PSIG	1800	1350	6785
OPEN FLOW, MCFD	6068	3416	1995
COMPONENT, MOLE PCT			
METHANE	92.5	92.9	96.4
ETHANE	4.2	3.8	1.8
PROPANE	1.0	0.9	0.3
N-BUTANE	0.3	0.2	0.1
ISOBUTANE	0.1	0.1	TRACE
N-PENTANE	TRACE	0.1	TRACE
ISOPENTANE	0.2	0.1	TRACE
CYCLOPENTANE	TRACE	0.1	TRACE
HEXANES PLUS	0.1	0.2	0.1
NITROGEN	0.5	1.1	0.9
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.0	0.4	0.4
HELIUM	0.02	0.02	0.02
HEATING VALUE*	1065	1065	1025
SPECIFIC GRAVITY	0.609	0.605	0.578

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 82 SAMPLE 16306	INDEX 83 SAMPLE 16307	INDEX 84 SAMPLE 16229
STATE	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY	LEA	LEA	LEA
FIELD	WILDCAT	WILDCAT	YOUNG
WELL NAME	GETTY FEDERAL "24" NO. 1	GETTY "32" NO. 1	YOUNG DEEP UNIT NO. 1
LOCATION	SEC. 24, T22S, R31E	SEC. 32, T21S, R32E	SEC. 10, T18S, R32E
OWNER	GETTY OIL CO.	GETTY OIL CO.	HARVEY E. YATES CO.
COMPLETED	12/28/80	12/20/80	04/18/80
SAMPLED	07/30/81	07/30/81	04/10/81
FORMATION	PENN-ATOKA	PENN-MORROW	PENN-MORROW
GEOLOGIC PROVINCE CODE	430	430	430
DEPTH, FEET	13528	14394	12845
WELLHEAD PRESSURE,PSIG	7000	4950	200
OPEN FLOW, MCFD	5039	3703	245
COMPONENT, MOLE PCT			
METHANE	94.1	91.2	78.5
ETHANE	3.3	4.8	11.2
PROPANE	0.6	1.3	5.8
N-BUTANE	0.1	0.2	1.7
ISOBUTANE	TRACE	0.2	0.7
N-PENTANE	0.1	TRACE	0.4
ISOPENTANE	0.1	0.1	0.4
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.1	0.1	0.2
NITROGEN	0.9	1.0	0.8
OXYGEN	0.0	0.1	0.0
ARGON	TRACE	TRACE	0.0
HYDROGEN	TRACE	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.5	0.9	0.4
HELIUM	0.02	0.02	0.02
HEATING VALUE*	1045	1066	1272
SPECIFIC GRAVITY	0.592	0.614	0.733

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 85 SAMPLE 16168	INDEX 86 SAMPLE 14928	INDEX 87 SAMPLE 15447
STATE	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY	RIO ARRIBA	SAN JUAN	SAN JUAN
FIELD	WILDCAT	BASIN DAKOTA	BLANCO
WELL NAME	FEDERAL NO. 31-12	STATE 16 NO. 1	YAGER NO. 4
LOCATION	SEC. 12, T24N, R2W	SEC. 16, T26N, R 8W	SEC. 10, T31N, R7W
OWNER	KENAI OIL & GAS INC.	PALMER OIL & GAS CO.	PALMER OIL & GAS CO.
COMPLETED	--/--/80	09/17/76	02/23/78
SAMPLED	01/13/81	03/02/77	10/22/78
FORMATION	TERT-NACIMIENTO	CRET-DAKOTA	CRET-PICTURED CLIFFS
GEOLOGIC PROVINCE CODE	580	580	580
DEPTH, FEET	2380	6664	3602
WELLHEAD PRESSURE,PSIG	520	1872	1475
OPEN FLOW, MCFD	3569	2829	2653
COMPONENT, MOLE PCT			
METHANE	96.2	76.8	89.9
ETHANE	1.4	13.2	3.9
PROPANE	0.1	5.7	1.6
N-BUTANE	0.1	1.2	0.4
ISOBUTANE	0.1	0.6	0.3
N-PENTANE	0.1	0.2	0.1
ISOPENTANE	TRACE	0.3	0.2
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	0.2	0.2	0.1
NITROGEN	1.7	0.9	0.5
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	TRACE	0.7	2.8
HELIUM	0.01	0.07	TRACE
HEATING VALUE*	1027	1258	1068
SPECIFIC GRAVITY	0.581	0.731	0.639

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 88 SAMPLE 15448	INDEX 89 SAMPLE 16339	INDEX 90 SAMPLE 16350
STATE	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY	SAN JUAN	SAN JUAN	SAN JUAN
FIELD	BLANCO	IGNACIO DISTRICT	LOS PINOS S
WELL NAME	YAGER NO. 2	SAN JUAN 32.7 NO. 72	NORTHEAST BLANCO UNIT 208
LOCATION	SEC. 20, T32N, R6W	SEC. 33, T32N, R7W	SEC. 12, T31N, R7W
OWNER	PALMER OIL & GAS CO.	NORTHWEST PIPELINE CO.	BLACKWOOD & NICHOLS CO.
COMPLETED	07/06/77	04/02/81	06/05/81
SAMPLED	10/22/78	09/17/81	10/07/81
FORMATION	CRET-MESAVERDE	CRET-PICTURED CLIFFS	CRET-PICTURED CLIFFS
GEOLOGIC PROVINCE CODE	580	580	580
DEPTH, FEET	5823	NOT GIVEN	3477
WELLHEAD PRESSURE,PSIG	1008	1491	1440
OPEN FLOW, MCFD	5254	12568	4055
COMPONENT, MOLE PCT			
METHANE	96.0	85.6	79.0
ETHANE	1.5	8.6	11.7
PROPANE	0.2	3.1	5.8
N-BUTANE	0.0	0.7	1.3
ISOBUTANE	0.0	0.6	0.9
N-PENTANE	0.0	0.2	0.2
ISOPENTANE	0.0	0.3	0.3
CYCLOPENTANE	0.0	0.1	TRACE
HEXANES PLUS	0.0	0.2	0.1
NITROGEN	0.5	0.1	0.3
OXYGEN	0.0	TRACE	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.1	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.8	0.4	0.4
HELIUM	TRACE	TRACE	TRACE
HEATING VALUE*	1005	1181	1261
SPECIFIC GRAVITY	0.583	0.668	0.721

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 91 SAMPLE 16227	INDEX 92 SAMPLE 10584	INDEX 93 SAMPLE 16207
STATE	NORTH DAKOTA	OHIO	OHIO
COUNTY	DUNN	KNOX	WASHINGTON
FIELD	UNNAMED	FREDERICKTOWN	NOT GIVEN
WELL NAME	VOLENSKY NO. 1	GWENDOLYNE RANDALL NO. 1	JUSTICE NO. 1
LOCATION	SEC. 34,T141N, R98W	SEC. 19, MIDDLEBURRY TWP.	DECATER TOWNSHIP
OWNER	MOSBACHER PRODUCTION CO.	SOHIO PETROLEUM CO.	TREND EXPLORATION, INC.
COMPLETED	01/05/80	01/28/65	11/99/78
SAMPLED	03/31/81	05/25/66	03/10/81
FORMATION	ORDO-RED RIVER	SILU-CLINTON	DEVO-OHIO SHALE
GEOLOGIC PROVINCE CODE	395	160	160
DEPTH, FEET	12792	2093	3880
WELLHEAD PRESSURE,PSIG	2100	NOT GIVEN	800
OPEN FLOW, MCFD	6239	734	4000
COMPONENT, MOLE PCT			
METHANE	76.3	72.1	81.5
ETHANE	7.9	10.1	9.6
PROPANE	3.3	3.1	4.2
N-BUTANE	2.4	1.0	0.9
ISOBUTANE	1.6	0.7	0.3
N-PENTANE	0.7	0.2	0.2
ISOPENTANE	1.0	0.2	0.2
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	0.3	0.3	0.2
NITROGEN	0.9	11.9	2.7
OXYGEN	0.0	0.0	TRACE
ARGON	TRACE	TRACE	0.0
HYDROGEN	0.4	0.0	0.1
HYDROGEN SULFIDE**	4.2	0.0	0.0
CARBON DIOXIDE	0.9	0.0	0.0
HELIUM	0.04	0.22	0.11
HEATING VALUE*	1255	1090	1178
SPECIFIC GRAVITY	0.767	0.726	0.687

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 94 SAMPLE 16330	INDEX 95 SAMPLE 16183	INDEX 96 SAMPLE 16235
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	BEAVER	BEAVER	BECKHAM
FIELD	FLORIS	LORENA E	BERLIN NE
WELL NAME	TRELBAR "A" NO. 1	HUEBNER NO.1-14	K. C. CATTLE CO. NO. 1
LOCATION	SEC. 11, T5N, R21ECM	SEC. 14, T5N R20 ECM	SEC. 34, T12N, R22W
OWNER	ANADARKO PRODUCTION CO.	INTERNORTH, INC.	GHK CO.
COMPLETED	11/19/80	04/10/79	01/06/81
SAMPLED	09/02/81	01/22/81	04/16/81
FORMATION	MISS-CHESTER	MISS-CHESTER	PENN-ATOKA
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	6489	6434	15196
WELLHEAD PRESSURE,PSIG	900	1629	10600
OPEN FLOW, MCFD	2800	5200	12000
COMPONENT, MOLE PCT			
METHANE	90.6	87.0	95.1
ETHANE	4.2	4.3	2.1
PROPANE	2.0	2.5	0.4
N-BUTANE	0.6	0.7	0.1
ISOBUTANE	0.3	0.4	0.1
N-PENTANE	0.2	0.2	0.1
ISOPENTANE	0.2	0.3	0.1
CYCLOPENTANE	0.1	0.1	TRACE
HEXANES PLUS	0.1	0.2	0.2
NITROGEN	1.3	4.1	0.4
OXYGEN	0.0	TRACE	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	0.1	1.4
HELIUM	0.09	0.16	0.02
HEATING VALUE*	1101	1096	1037
SPECIFIC GRAVITY	0.629	0.651	0.596

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 97 SAMPLE 16261	INDEX 98 SAMPLE 16143	INDEX 99 SAMPLE 16162
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	BECKHAM	BECKHAM	BECKHAM
FIELD	BERLIN NE	CARPENTER W	CARTER E
WELL NAME	MERRICK NO. 1	THURMOND NO. 1	KENNEMER NO. 1-6
LOCATION	SEC. 28, T12N, R22W	SEC. 27, T12N, R22W	SEC. 6, T8N, R21W
OWNER	GHK CORP.	GHK CORP.	UNION TEXAS PETROLEUM CORP.
COMPLETED	01/15/81	08/21/80	08/12/80
SAMPLED	05/21/81	12/07/80	01/06/81
FORMATION	PENN-ATOKA	PENN-ATOKA	MISS-
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	15152	14806	12394
WELLHEAD PRESSURE,PSIG	9800	8660	3490
OPEN FLOW, MCFD	14200	12277	3700
COMPONENT, MOLE PCT			
METHANE	95.5	95.2	88.6
ETHANE	1.8	2.1	5.5
PROPANE	0.3	0.4	1.7
N-BUTANE	0.1	0.1	0.6
ISOBUTANE	0.1	0.1	0.2
N-PENTANE	TRACE	0.1	0.2
ISOPENTANE	0.1	TRACE	0.1
CYCLOPENTANE	0.1	TRACE	0.1
HEXANES PLUS	0.2	0.2	0.2
NITROGEN	0.4	0.3	1.4
OXYGEN	0.0	0.0	0.1
ARGON	TRACE	TRACE	0.0
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.3	1.3	1.2
HELIUM	0.02	0.02	0.04
HEATING VALUE*	1032	1034	1094
SPECIFIC GRAVITY	0.592	0.591	0.641

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 100 SAMPLE 16257	INDEX 101 SAMPLE 16287	INDEX 102 SAMPLE 16295
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	BLAINE	CADDO	CADDO
FIELD	GEARY SW	LIBBIE	LIBBIE
WELL NAME	STATE-REX NO. 1-16	FLANIGIN NO. 1	JEAN R. EPPERLY NO. 1-24
LOCATION	SEC. 16, T13N, R11W	SEC. 29, T12N, R12W	SEC. 24, T12N, R13W
OWNER	SEARCH DRILLING CO.	COTTON PETROLEUM CORP.	GULF OIL EXPL. & PROD. CO.
COMPLETED	09/10/80	08/24/80	06/08/81
SAMPLED	05/19/81	06/29/81	07/17/81
FORMATION	PENN-RED FORK	-BRITT	PENN-SPRINGER
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	10880	13897	13804
WELLHEAD PRESSURE,PSIG	1405	8450	6944
OPEN FLOW, MCFD	2031	NOT GIVEN	3040
COMPONENT, MOLE PCT			
METHANE	83.5	96.7	96.9
ETHANE	9.4	1.3	1.3
PROPANE	3.8	0.2	0.2
N-BUTANE	0.8	0.0	0.0
ISOBUTANE	0.5	0.0	0.0
N-PENTANE	0.2	0.0	0.0
ISOPENTANE	0.2	0.0	0.0
CYCLOPENTANE	TRACE	0.0	0.0
HEXANES PLUS	0.2	0.0	0.0
NITROGEN	0.7	0.4	0.4
OXYGEN	TRACE	TRACE	TRACE
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.6	1.4	1.2
HELIUM	0.03	0.02	0.02
HEATING VALUE*	1184	1008	1010
SPECIFIC GRAVITY	0.679	0.578	0.576

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 103 SAMPLE 16344	INDEX 104 SAMPLE 16331	INDEX 105 SAMPLE 16296
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	CADDO	CANADIAN	CIMARRON
FIELD	LIBBIE	EDMOND W	GRIGGS SE
WELL NAME	FLANIGIN NO. 1	CAROL DIANE NO. 1	GUSTAVE DENCKER NO. 2
LOCATION	SEC. 29, T12N, R12W	SEC. 11, T14N, R5W	SEC. 27, T2N, R9ECM
OWNER	COTTON PETROLEUM CORP.	DLB ENERGY CORP.	TEXACO INC.
COMPLETED	08/--/80	NOT GIVEN	03/24/81
SAMPLED	09/28/81	09/--/81	07/28/81
FORMATION	PENN-BRITT	NOT GIVEN	PENN-MORROW
GEOLOGIC PROVINCE CODE	360	360	435
DEPTH, FEET	13907	NOT GIVEN	4602
WELLHEAD PRESSURE,PSIG	6800	NOT GIVEN	1012
OPEN FLOW, MCFD	3389	NOT GIVEN	7300
COMPONENT, MOLE PCT			
METHANE	96.4	94.6	84.9
ETHANE	1.4	2.3	5.9
PROPANE	0.2	0.6	2.7
N-BUTANE	TRACE	0.2	0.8
ISOBUTANE	TRACE	0.1	0.2
N-PENTANE	TRACE	0.1	0.2
ISOPENTANE	0.0	0.1	0.3
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	TRACE	0.2	0.2
NITROGEN	0.3	1.3	4.4
OXYGEN	TRACE	0.0	TRACE
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.5	0.3	0.1
HELIUM	0.02	0.05	0.25
HEATING VALUE*	1011	1048	1105
SPECIFIC GRAVITY	0.580	0.595	0.661

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 106 SAMPLE 16317	INDEX 107 SAMPLE 16318	INDEX 108 SAMPLE 16364
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	CUSTER	CUSTER	DEWEY
FIELD	WEATHERFORD SW	WEATHERFORD SW	WILDCAT
WELL NAME	MEAHAM NO. 1-13	PALMER NO. 1-17	VANDERWORK NO. 1
LOCATION	SEC. 13, T12N, R16W	SEC. 17, T12N, R15W	SEC. 4, T18N, R17W
OWNER	AN-SON CORP.	AN-SON CORP.	SCARTH OIL & GAS CO.
COMPLETED	12/22/80	11/20/80	DRILL STEM TEST
SAMPLED	07/22/81	07/22/81	10/26/81
FORMATION	PENN-RED FORK	PENN-RED FORK	MISS-OSAGE
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	12268	12533	12076
WELLHEAD PRESSURE,PSIG	7938	7925	1100
OPEN FLOW, MCFD	91081	8670	50
COMPONENT, MOLE PCT			
METHANE	85.8	84.8	90.8
ETHANE	8.0	8.3	2.1
PROPANE	3.3	3.7	0.9
N-BUTANE	0.7	0.8	0.5
ISOBUTANE	0.5	0.6	0.3
N-PENTANE	0.1	0.2	0.2
ISOPENTANE	0.2	0.3	0.2
CYCLOPENTANE	TRACE	0.1	0.1
HEXANES PLUS	0.2	0.2	0.3
NITROGEN	0.6	0.7	0.6
OXYGEN	TRACE	TRACE	0.0
ARGON	TRACE	0.0	0.0
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.4	0.4	4.0
HELIUM	0.03	0.02	0.02
HEATING VALUE*	1162	1186	1044
SPECIFIC GRAVITY	0.661	0.678	0.644

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 109 SAMPLE 16365	INDEX 110 SAMPLE 16238	INDEX 111 SAMPLE 16341
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	DEWEY	ELLIS	ELLIS
FIELD	WILDCAT	ARNETT SW	HIGGINS
WELL NAME	VANDERWORK NO. 1	STATE OF OKLAHOMA NO. 1	STATE OF OKLAHOMA NO. 1-36
LOCATION	SEC. 4, T18N, R17W	SEC. 16, T18N, R25W	SEC. 36, T19N, R25W
OWNER	SCARTH OIL & GAS CO.	HAMILTON BROTHERS OIL CO.	HAMILTON BROTHERS OIL CO.
COMPLETED	DRILL STEM TEST	12/--/80	01/30/81
SAMPLED	10/28/81	04/20/81	09/25/81
FORMATION	MISS-OSAGE	PENN-MORROW	PENN-MORROW
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	12114	11980	11214
WELLHEAD PRESSURE,PSIG	1575	2176	5000
OPEN FLOW, MCFD	6000	2020	10403
COMPONENT, MOLE PCT			
METHANE	92.9	94.1	93.6
ETHANE	2.2	2.4	3.4
PROPANE	0.8	0.5	0.5
N-BUTANE	0.5	0.1	0.2
ISOBUTANE	0.2	0.1	0.0
N-PENTANE	0.3	TRACE	0.0
ISOPENTANE	0.1	0.1	0.1
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.2	0.1	0.1
NITROGEN	0.7	0.5	0.4
OXYGEN	TRACE	0.0	0.1
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	2.0	2.0	1.7
HELIUM	0.03	0.03	0.03
HEATING VALUE*	1056	1025	1038
SPECIFIC GRAVITY	0.621	0.600	0.603

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 112 SAMPLE 16258	INDEX 113 SAMPLE 16260	INDEX 114 SAMPLE 16345
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	ELLIS	ELLIS	GARFIELD
FIELD	PEEK NE	STUART RANCH	SOONER TREND
WELL NAME	MILLER NO. 1-3	STUART UNIT NO. 1	CLARENCE GIGOUX NO. 1
LOCATION	SEC. 3, T18N, R22W	SEC. 9, T22N, R26W	SEC. 26, T23N, R8W
OWNER	NATOMAS NORTH AMERICA, INC.	MEWBOURNE OIL CO.	TEXAS AMERICAN OIL CORP.
COMPLETED	02/06/81	02/99/80	02/05/81
SAMPLED	05/08/81	05/21/81	10/01/81
FORMATION	PENN-MORROW	PENN-MORROW	EOCE-2ND WILCOX
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	11512	9118	7361
WELLHEAD PRESSURE,PSIG	4210	2500	2400
OPEN FLOW, MCFD	5500	2400	1550
COMPONENT, MOLE PCT			
METHANE	91.2	86.2	76.1
ETHANE	4.7	5.8	6.2
PROPANE	1.4	3.0	3.5
N-BUTANE	0.3	0.8	1.1
ISOBUTANE	0.2	0.7	0.6
N-PENTANE	TRACE	0.2	0.4
ISOPENTANE	0.1	0.8	0.2
CYCLOPENTANE	TRACE	0.3	0.1
HEXANES PLUS	0.1	0.6	0.4
NITROGEN	0.6	0.6	10.3
OXYGEN	0.0	0.0	0.1
ARGON	TRACE	0.0	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.3	1.1	0.8
HELIUM	0.04	0.04	0.10
HEATING VALUE*	1071	1190	1080
SPECIFIC GRAVITY	0.618	0.689	0.719

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 115 SAMPLE 16267	INDEX 116 SAMPLE 16164	INDEX 117 SAMPLE 16363
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	GRADY	GRADY	HASKELL
FIELD	CHICKASHA SE	TABLER NE	BROOKEN
WELL NAME	W. B. SMITH NO. 1	MCCALLA RANCH NO. 1	MURPHY NO. 1
LOCATION	SEC. 14, T6N, R7W	SEC. 12, T7W, R6W	SEC. 8, T9N, R18E
OWNER	WAGNER & BROWN O&G PROD.	SHELL OIL CO.	SUN GAS CO.
COMPLETED	02/07/80	08/29/80	07/--/81
SAMPLED	05/27/81	01/09/81	10/20/81
FORMATION	PENN-MEDRANO	PENN-HOXBAR	PENN-BOOCH
GEOLOGIC PROVINCE CODE	360	360	345
DEPTH, FEET	9122	7234	1350
WELLHEAD PRESSURE,PSIG	2575	2850	310
OPEN FLOW, MCFD	6400	3680	3000
COMPONENT, MOLE PCT			
METHANE	85.4	80.9	96.6
ETHANE	5.9	3.8	1.9
PROPANE	4.0	1.4	0.3
N-BUTANE	1.1	0.4	0.0
ISOBUTANE	0.5	0.3	0.0
N-PENTANE	0.3	0.1	0.0
ISOPENTANE	0.3	0.1	0.0
CYCLOPENTANE	0.1	TRACE	0.0
HEXANES PLUS	0.2	0.1	0.0
NITROGEN	2.1	11.0	0.6
OXYGEN	0.0	1.6	0.0
ARGON	0.0	0.1	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	0.1	0.4
HELIUM	0.08	0.07	0.06
HEATING VALUE*	1168	961	1020
SPECIFIC GRAVITY	0.678	0.660	0.572

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 118 SAMPLE 16308	INDEX 119 SAMPLE 16171	INDEX 120 SAMPLE 16236
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	KINGFISHER	MAJOR	PAYNE
FIELD	OKARCHE N	OKEENE NW	GOODNIGHT NE
WELL NAME	AHLDEN NO. 1	NIGHTENGALE NO. 4	SCOTT NO. 1
LOCATION	SEC. 28, T15N, R7W	SEC. 12, T20N, R12W	SEC. 17, T17N, R2E
OWNER	NOVA ENERGY CORP.	DOME PETROLEUM CORP.	SANTA FE ENERGY CO.
COMPLETED	03/29/80	10/11/80	NOT GIVEN
SAMPLED	08/14/81	01/15/81	04/16/81
FORMATION	DEVO-BOIS D ARC & MISS	DEVO-HUNTON	ORDO-VIOLA
GEOLOGIC PROVINCE CODE	360	360	355
DEPTH, FEET	8621	8460	4762
WELLHEAD PRESSURE,PSIG	1663	1654	1600
OPEN FLOW, MCFD	482	2108	2743
COMPONENT, MOLE PCT			
METHANE	77.5	93.7	77.6
ETHANE	10.4	3.1	8.3
PROPANE	5.3	0.9	4.1
N-BUTANE	2.1	0.3	1.2
ISOBUTANE	0.8	0.2	0.6
N-PENTANE	0.6	0.2	0.4
ISOPENTANE	0.5	0.1	0.3
CYCLOPENTANE	0.2	0.1	0.2
HEXANES PLUS	0.4	0.2	0.4
NITROGEN	1.8	0.7	6.8
OXYGEN	0.1	0.0	0.0
ARGON	0.0	0.0	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	0.4	0.0
HELIUM	0.03	0.02	0.16
HEATING VALUE*	1282	1072	1160
SPECIFIC GRAVITY	0.747	0.605	0.719

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 121 SAMPLE 16218	INDEX 122 SAMPLE 16313	INDEX 123 SAMPLE 16314
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	PITTSBURG	PITTSBURG	PITTSBURG
FIELD	FEATHERSTON	WILDCAT	WILDCAT
WELL NAME	MCGEORGE NO. 2	THORNTON-RAILEY NO. 1-20	THORNTON-RAILEY NO. 1-20
LOCATION	SEC. 31, T8N, R18E	SEC. 20, T4N, R16E	SEC. 20, T4N, R16E
OWNER	POTTS-STEPHENSON EXPL. CO.	HAMILTON BROTHERS OIL CO.	HAMILTON BROTHERS OIL CO.
COMPLETED	06/--/80	NOT GIVEN	NOT GIVEN
SAMPLED	03/28/81	08/--/81	08/--/81
FORMATION	PENN-HARTSHORNE	PENN-ATOKA	PENN-WAPANUCKA
GEOLOGIC PROVINCE CODE	345	345	345
DEPTH, FEET	2800	7390	12766
WELLHEAD PRESSURE,PSIG	500	3000	2500
OPEN FLOW, MCFD	2000	1338	1938
COMPONENT, MOLE PCT			
METHANE	94.9	96.4	96.4
ETHANE	3.4	1.8	1.7
PROPANE	0.7	0.3	0.3
N-BUTANE	0.1	0.1	0.0
ISOBUTANE	TRACE	0.0	0.0
N-PENTANE	TRACE	TRACE	0.0
ISOPENTANE	TRACE	0.0	0.0
CYCLOPENTANE	TRACE	TRACE	0.0
HEXANES PLUS	TRACE	0.1	0.0
NITROGEN	0.5	0.4	0.4
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	TRACE	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	0.9	1.1
HELIUM	0.04	0.03	0.03
HEATING VALUE*	1044	1025	1015
SPECIFIC GRAVITY	0.584	0.581	0.578

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 124 SAMPLE 16187	INDEX 125 SAMPLE 16356	INDEX 126 SAMPLE 16351
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	ROGER MILLS	ROGER MILLS	ROGER MILLS
FIELD	LEEDEY SW	LEEDEY SW	NEW LIBERTY
WELL NAME	SWITZER NO. 1-G	LARRY SWITZER NO. 1	MCLEAN NO. 1
LOCATION	SEC. 32, T16N, R21W	SEC. 35, T16N, R21W	SEC. 5, T11N, R24W
OWNER	WOOD PETROLEUM CORP.	DIAMOND SHAMROCK CORP.	EL PASO EXPLORATION CO.
COMPLETED	02/20/79	03/09/81	03/11/81
SAMPLED	02/18/81	10/20/81	10/13/81
FORMATION	PENN-RED FORK	PENN-RED FORK	PENN-MORROW
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	11363	11347	18853
WELLHEAD PRESSURE,PSIG	6440	6500	13608
OPEN FLOW, MCFD	10526	NOT GIVEN	9314
COMPONENT, MOLE PCT			
METHANE	82.8	83.5	96.6
ETHANE	8.5	9.0	0.5
PROPANE	4.3	3.9	TRACE
N-BUTANE	0.9	0.9	0.0
ISOBUTANE	0.8	0.5	0.0
N-PENTANE	0.3	0.2	0.0
ISOPENTANE	0.5	0.3	0.0
CYCLOPENTANE	0.2	0.1	0.0
HEXANES PLUS	0.5	0.2	0.0
NITROGEN	0.5	0.6	0.2
OXYGEN	0.0	0.1	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.7	0.7	2.6
HELIUM	0.02	0.02	0.02
HEATING VALUE*	1227	1191	988
SPECIFIC GRAVITY	0.706	0.686	0.582

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 127 SAMPLE 16322	INDEX 128 SAMPLE 16160	INDEX 129 SAMPLE 16208
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	ROGER MILLS	TEXAS	TEXAS
FIELD	STRONG CITY NE	GUYMON	HOOKER NE
WELL NAME	THOMAS NO. 1	HURLIMAN "A" NO. 4	METCALF "A" NO. 1
LOCATION	SEC. 28, T15N, R22W	SEC. 16, T3N, R15ECM	SEC. 2, T4N, R18ECM
OWNER	DIAMOND SHAMROCK CORP.	GETTY OIL CO.	ANADARKO PRODUCTION CO.
COMPLETED	NOT GIVEN	07/24/80	02/28/80
SAMPLED	08/28/81	01/08/81	03/17/81
FORMATION	PENN-RED FORK	PENN-TORONTO	MISS-CHESTER
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	12044	4164	6524
WELLHEAD PRESSURE,PSIG	7700	950	585
OPEN FLOW, MCFD	9600	2222	797
COMPONENT, MOLE PCT			
METHANE	87.6	70.7	86.2
ETHANE	7.3	7.6	5.0
PROPANE	2.2	4.4	3.4
N-BUTANE	0.4	1.4	1.1
ISOBUTANE	0.4	0.4	0.5
N-PENTANE	0.1	0.4	0.3
ISOPENTANE	0.2	0.3	0.4
CYCLOPENTANE	0.1	TRACE	0.1
HEXANES PLUS	0.2	0.1	0.2
NITROGEN	0.5	14.4	2.5
OXYGEN	0.0	TRACE	0.1
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.2	TRACE	0.2
HELIUM	0.03	0.27	0.15
HEATING VALUE*	1129	1062	1149
SPECIFIC GRAVITY	0.652	0.738	0.671

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 130 SAMPLE 16393	INDEX 131 SAMPLE 16385	INDEX 132 SAMPLE 16216
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	WASHITA	WASHITA	WASHITA
FIELD	CANUTE, N	CORN & COLONY	CORN N
WELL NAME	ALLISON NO. 1-3	FLAMING NO. 1-20	BROWN FOUNDATION NO. 1
LOCATION	SEC. 3, T11N, R20W	SEC. 20, T11N, R14W	SEC. 14, T11N, R15W
OWNER	GHK CORP.	HELMERICH & PAYNE, INC.	HELMERICH & PAYNE, INC.
COMPLETED	12/09/81	05/01/81	03/15/80
SAMPLED	12/09/81	11/17/81	03/15/81
FORMATION	PENN-ATOKA	PENN-SPRINGER	PENN-SPRINGER
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	14955	16002	15966
WELLHEAD PRESSURE,PSIG	9000	11400	10900
OPEN FLOW, MCFD	6300	8196	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	96.0	96.9	97.1
ETHANE	2.0	0.6	0.6
PROPANE	0.3	0.1	0.1
N-BUTANE	0.1	0.0	0.0
ISOBUTANE	TRACE	0.0	0.0
N-PENTANE	TRACE	0.0	0.0
ISOPENTANE	TRACE	0.0	0.0
CYCLOPENTANE	TRACE	0.0	0.0
HEXANES PLUS	0.1	0.0	0.0
NITROGEN	0.4	0.4	0.5
OXYGEN	0.0	0.1	0.1
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.0	1.9	1.6
HELIUM	0.02	0.02	0.02
HEATING VALUE*	1025	995	997
SPECIFIC GRAVITY	0.582	0.579	0.577

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 133 SAMPLE 16290	INDEX 134 SAMPLE 16223	INDEX 135 SAMPLE 16373
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	WASHITA	WASHITA	WOODWARD
FIELD	SEGER	WILDCAT	MUTUAL W
WELL NAME	SEGER INDIAN SCHOOL NO. 1	IRA JOHNSON NO. 1	MATHEWS NO. 1
LOCATION	SEC. 23, T10N, R14E	SEC. 10, T9N, R19W	SEC. 21, T20N, R19W
OWNER	HAMILTON BROTHERS OIL CO.	EL PASO NATURAL GAS CO.	ANR PRODUCTION CO.
COMPLETED	NOT GIVEN	10/16/80	09/08/80
SAMPLED	07/07/81	04/06/81	11/04/81
FORMATION	PENN-RED FORK	PENN-MORROW	PENN-MORROW
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	NOT GIVEN	16798	9082
WELLHEAD PRESSURE,PSIG	8400	9522	3150
OPEN FLOW, MCFD	6000	6180	10000
COMPONENT, MOLE PCT			
METHANE	88.8	96.8	92.9
ETHANE	6.5	1.4	3.2
PROPANE	2.2	0.2	1.3
N-BUTANE	0.3	TRACE	0.4
ISOBUTANE	0.3	TRACE	0.2
N-PENTANE	TRACE	0.0	0.2
ISOPENTANE	0.2	TRACE	0.2
CYCLOPENTANE	TRACE	TRACE	0.1
HEXANES PLUS	0.1	TRACE	0.2
NITROGEN	0.7	0.4	0.6
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	0.0
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.6	1.0	0.6
HELIUM	0.03	0.02	0.07
HEATING VALUE*	1107	1011	1083
SPECIFIC GRAVITY	0.631	0.574	0.615

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 136 SAMPLE 16374	INDEX 137 SAMPLE 16347	INDEX 138 SAMPLE 16348
STATE	OKLAHOMA	OREGON	OREGON
COUNTY	WOODWARD	COLUMBIA	COLUMBIA
FIELD	MUTUAL W.	MIST	MIST
WELL NAME	BORDEN NO. 1	COLUMBIA CO. NO. 1, RD NO. 1	COLUMBIA CO. NO. 3, RD NO. 1
LOCATION	SEC. 16, T20N, R19W	SEC. 11, T6N, R5W	SEC. 10, T6N, R5W
OWNER	ANR PRODUCTION CO.	REICHHOLD ENERGY CORP.	REICHHOLD ENERGY CORP.
COMPLETED	04/28/80	06/12/80	06/12/80
SAMPLED	11/04/81	--/--/81	--/--/81
FORMATION	MISS-MERAMEC	-CLARK AND WILSON SAND	-CLARK AND WILSON SAND
GEOLOGIC PROVINCE CODE	360	710	710
DEPTH, FEET	10287	2445	2267
WELLHEAD PRESSURE,PSIG	3050	971	966
OPEN FLOW, MCFD	1000	9200	32000
COMPONENT, MOLE PCT			
METHANE	94.2	89.0	88.7
ETHANE	2.3	0.1	0.1
PROPANE	1.1	0.1	TRACE
N-BUTANE	0.5	0.0	0.0
ISOBUTANE	0.2	0.0	0.0
N-PENTANE	0.2	0.0	0.0
ISOPENTANE	0.2	0.0	0.0
CYCLOPENTANE	0.1	0.0	0.0
HEXANES PLUS	0.2	0.0	0.0
NITROGEN	0.6	10.5	10.8
OXYGEN	0.0	TRACE	TRACE
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	0.3	0.3
HELIUM	0.03	0.01	0.01
HEATING VALUE*	1079	906	900
SPECIFIC GRAVITY	0.607	0.602	0.602

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 139 SAMPLE 16349	INDEX 140 SAMPLE 16279	INDEX 141 SAMPLE 16189
STATE	OREGON	PENNSYLVANIA	PENNSYLVANIA
COUNTY	COLUMBIA	CRAWFORD	SOMERSET
FIELD	MIST	ATHENS PROSPECT	NOT GIVEN
WELL NAME	COLUMBIA CO. NO. 4	JAMES K. ANDERSON NO. 2	DALE S. BARRON NO. 1
LOCATION	SEC. 15, T6N, R5W	ON ROUTE 767	BAKERSVILLE QUADRANGLE
OWNER	REICHHOLD ENERGY CORP.	WAINOCO OIL & GAS CO.	AMOCO PRODUCTION CO.
COMPLETED	06/12/80	03/21/79	03/06/79
SAMPLED	--/--/81	06/05/81	02/13/80
FORMATION	-CLARK AND WILSON SAND	SILU-MEDINA	DEVO-ORISKANY
GEOLOGIC PROVINCE CODE	710	160	160
DEPTH, FEET	2315	4850	8676
WELLHEAD PRESSURE,PSIG	970	1350	3425
OPEN FLOW, MCFD	1600	7898	3500
COMPONENT, MOLE PCT			
METHANE	89.2	93.3	97.3
ETHANE	0.0	3.1	1.1
PROPANE	0.0	0.4	0.1
N-BUTANE	0.0	0.2	0.0
ISOBUTANE	0.0	TRACE	0.0
N-PENTANE	0.0	TRACE	0.0
ISOPENTANE	0.0	0.1	0.0
CYCLOPENTANE	0.0	TRACE	0.0
HEXANES PLUS	0.0	0.1	0.0
NITROGEN	10.5	2.7	1.1
OXYGEN	0.0	TRACE	0.1
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	TRACE	0.2
HELIUM	0.01	0.08	0.03
HEATING VALUE*	904	1027	1008
SPECIFIC GRAVITY	0.599	0.592	0.567

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 142 SAMPLE 16201	INDEX 143 SAMPLE 16182	INDEX 144 SAMPLE 16263
STATE	TEXAS	TEXAS	TEXAS
COUNTY	BOWIE	BRAZORIA	CHAMBERS
FIELD	SILOAM	DANBURY NW	SHIP CHANNEL S
WELL NAME	B. E. LEWIS NO. 1	ADA SHARPE NO. 1	STATE TRACT 299 NO. 1
LOCATION	JOHN C. CARSON SUR. A-112	G. M. PATRICK SUR. 3, A-105	GALVESTON BAY
OWNER	MCCORMICK OPERATING CO.	ANSCHUTZ CORP.	HOUSTON OIL & MINERALS CORP.
COMPLETED	10/21/78	04/03/80	05/--/80
SAMPLED	03/03/81	02/01/81	05/22/81
FORMATION	JURA-SMACKOVER	OLIG-FRIO	OLIG-FRIO
GEOLOGIC PROVINCE CODE	260	220	220
DEPTH, FEET	8580	13661	11000
WELLHEAD PRESSURE,PSIG	2925	3650	8572
OPEN FLOW, MCFD	6700	4296	7546
COMPONENT, MOLE PCT			
METHANE	42.6	89.0	83.7
ETHANE	1.9	5.0	6.6
PROPANE	0.9	1.8	3.4
N-BUTANE	0.4	0.4	1.0
ISOBUTANE	0.4	0.4	1.0
N-PENTANE	0.2	0.1	0.3
ISOPENTANE	0.2	0.2	0.9
CYCLOPENTANE	TRACE	TRACE	0.3
HEXANES PLUS	0.1	0.1	0.8
NITROGEN	39.7	1.2	0.4
OXYGEN	1.6	0.0	TRACE
ARGON	0.1	TRACE	0.0
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	4.1	0.0	0.0
CARBON DIOXIDE	7.7	1.6	1.4
HELIUM	0.09	0.01	0.01
HEATING VALUE*	564	1083	1225
SPECIFIC GRAVITY	0.869	0.637	0.714

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 145 SAMPLE 16170	INDEX 146 SAMPLE 16205	INDEX 147 SAMPLE 16232
STATE	TEXAS	TEXAS	TEXAS
COUNTY	HEMPHILL	HEMPHILL	HEMPHILL
FIELD	ALLISON-PARKS	BRISCOE	CANADIAN E
WELL NAME	KIKER NO. 15-1	PRATER NO. 1-39	LINDLEY NO. 4
LOCATION	SEC. 15, BLK. Z-1,ACH&B SUR.	SEC. 39, BLK. M1, H&GN SUR.	M. MOODY SUR.
OWNER	KERR-MCGEE CORP.	INTERNORTH, INC.	PIONEER PRODUCTION CORP.
COMPLETED	08/--/80	02/25/80	01/07/81
SAMPLED	01/15/81	03/12/81	04/14/81
FORMATION	PENN-MORROW	PENN-MORROW	PENN-DOUGLAS
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	14960	14364	6806
WELLHEAD PRESSURE,PSIG	8800	7424	1700
OPEN FLOW, MCFD	3442	7538	7400
COMPONENT, MOLE PCT			
METHANE	96.7	95.8	81.3
ETHANE	0.6	1.5	7.0
PROPANE	0.1	0.2	4.1
N-BUTANE	TRACE	0.1	1.1
ISOBUTANE	TRACE	TRACE	0.6
N-PENTANE	0.1	TRACE	0.3
ISOPENTANE	0.0	0.1	0.3
CYCLOPENTANE	0.1	0.1	TRACE
HEXANES PLUS	0.1	0.2	0.1
NITROGEN	0.3	0.4	4.2
OXYGEN	0.0	TRACE	0.5
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	2.0	1.7	0.3
HELIUM	0.02	0.02	0.16
HEATING VALUE*	1006	1024	1143
SPECIFIC GRAVITY	0.585	0.593	0.692

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 148 SAMPLE 16198	INDEX 149 SAMPLE 16366	INDEX 150 SAMPLE 14575
STATE	TEXAS	TEXAS	TEXAS
COUNTY	HEMPHILL	HEMPHILL	HIDALGO
FIELD	TWISTER DOUGLAS	TWISTER DOUGLAS	LA REFORMA
WELL NAME	URSCHEL NO. 1-49	HUMPREYS 39 NO. 1	A. GUERRA "B" NO. 5
LOCATION	SEC. 49, BLK. 1, G&M SUR.	SEC. 39, BLK.1, G&M SUR.	SAN JOSE GRANT A-575
OWNER	JAKE L. HAMON	INTERNORTH, INC.	CHAMPLIN PETROLEUM CO.
COMPLETED	03/04/80	NOT GIVEN	10/01/74
SAMPLED	03/03/81	10/27/81	02/03/76
FORMATION	PENN-DOUGLAS	PENN-DOUGLAS	OLIG-FRIO
GEOLOGIC PROVINCE CODE	360	360	220
DEPTH, FEET	7020	7037	6800
WELLHEAD PRESSURE,PSIG	1800	1767	1812
OPEN FLOW, MCFD	18500	5933	4048
COMPONENT, MOLE PCT			
METHANE	82.2	79.3	91.1
ETHANE	7.8	8.5	5.2
PROPANE	4.4	5.3	1.9
N-BUTANE	1.2	1.4	0.4
ISOBUTANE	0.7	0.8	0.6
N-PENTANE	0.3	0.4	0.1
ISOPENTANE	0.5	0.4	0.2
CYCLOPENTANE	0.2	0.1	TRACE
HEXANES PLUS	0.4	0.3	0.1
NITROGEN	2.1	3.0	0.3
OXYGEN	TRACE	TRACE	0.0
ARGON	0.0	0.0	0.0
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	0.2	0.2
HELIUM	0.15	0.18	TRACE
HEATING VALUE*	1213	1221	1117
SPECIFIC GRAVITY	0.706	0.721	0.626

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 151 SAMPLE 16337	INDEX 152 SAMPLE 16245	INDEX 153 SAMPLE 16388
STATE	TEXAS	TEXAS	TEXAS
COUNTY	JACK	JACK	JEFFERSON
FIELD	NOT GIVEN	WILDCAT	M-HALF CIRCLE RANCH
WELL NAME	ANNA C. STREET NO. 1	MATLOCK NO. 1	M-HALF CIRCLE RANCH NO. 2
LOCATION	J. L. HOLLARS SUR. A-1916	J. J. WALKER SUR. A-1892	W. B. BURTON SUR., A-8
OWNER	THRESHOLD DEVELOPMENT CO.	WORLD PRODUCERS, INC.	GULF OIL CORP.
COMPLETED	--/--/80	10/29/80	01/21/81
SAMPLED	09/15/81	04/27/81	11/19/81
FORMATION	PENN-MARBLE FALLS	PENN-MARBLE FALLS	OLIG-FRIO
GEOLOGIC PROVINCE CODE	420	420	220
DEPTH, FEET	5362	4874	10200
WELLHEAD PRESSURE,PSIG	1200	1880	6951
OPEN FLOW, MCFD	2198	4000	290000
COMPONENT, MOLE PCT			
METHANE	58.5	78.5	95.9
ETHANE	15.1	8.0	2.1
PROPANE	15.4	5.1	0.6
N-BUTANE	3.3	1.4	0.2
ISOBUTANE	1.4	0.6	0.1
N-PENTANE	0.5	0.3	0.1
ISOPENTANE	0.3	0.4	0.1
CYCLOPENTANE	0.1	0.1	TRACE
HEXANES PLUS	0.2	0.2	0.1
NITROGEN	4.8	5.0	0.3
OXYGEN	TRACE	0.1	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	TRACE	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	0.2	0.5
HELIUM	0.08	0.14	TRACE
HEATING VALUE*	1469	1182	1049
SPECIFIC GRAVITY	0.899	0.718	0.588

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 154 SAMPLE 16292	INDEX 155 SAMPLE 10142	INDEX 156 SAMPLE 16254
STATE	TEXAS	TEXAS	TEXAS
COUNTY	JEFFERSON	KLEBERG	KLEBERG
FIELD	NOME NE	STRATTON	YEARY W
WELL NAME	PICA INVESTMENT CO. NO. 1	G. P. WARDNER 83-MT	L. L. HUFF ESTATE NO. 1
LOCATION	3.6 MI. SSE SOUR LAKE	PASA ANCHO DE ARRIBA GT.A-93	DE LA BOVIDA GRANT, A-232
OWNER	TEXACO INC.	CHAMPLIN PETROLEUM CO.	WAINOCO OIL & GAS CO.
COMPLETED	11/14/80	05/10/64	NOT GIVEN
SAMPLED	07/10/81	09/22/65	05/11/81
FORMATION	EOCE-YEGUA	OLIG-SAND	-HUFF
GEOLOGIC PROVINCE CODE	220	220	220
DEPTH, FEET	10500	6766	10702
WELLHEAD PRESSURE,PSIG	6827	1305	5866
OPEN FLOW, MCFD	12444	5870	21000
COMPONENT, MOLE PCT			
METHANE	83.5	91.6	92.5
ETHANE	6.9	4.5	4.0
PROPANE	5.2	1.7	1.6
N-BUTANE	0.9	0.5	0.4
ISOBUTANE	0.9	0.5	0.4
N-PENTANE	0.1	0.1	0.2
ISOPENTANE	0.4	0.3	TRACE
CYCLOPENTANE	0.2	0.1	TRACE
HEXANES PLUS	0.3	0.4	0.1
NITROGEN	0.5	0.2	0.4
OXYGEN	TRACE	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.2	0.1	0.3
HELIUM	TRACE	TRACE	TRACE
HEATING VALUE*	1209	1128	1091
SPECIFIC GRAVITY	0.703	0.630	0.613

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 157 SAMPLE 16174	INDEX 158 SAMPLE 16291	INDEX 159 SAMPLE 16285
STATE	TEXAS	TEXAS	TEXAS
COUNTY	LAVACA	LIPSCOMB	LIPSCOMB
FIELD	WORD N	BRADFORD	MAMMOTH CREEK N
WELL NAME	WOYTEK NO. 1-E	SIM PAINE NO. 3	GEX NO. 1
LOCATION	JAMES CAMPBELL SUR.2, A-6	SEC. 943, BLK. 43, H&TC SUR.	SEC. 873, BLK.43, H&TC SUR.
OWNER	HOWELL DRILLING, INC.	ARCO OIL AND GAS CO.	MAY PETROLEUM INC.
COMPLETED	06/22/80	05/13/80	04/22/81
SAMPLED	01/22/81	07/13/81	06/17/81
FORMATION	CRET-EDWARDS	PENN-CLEVELAND	PENN-CLEVELAND
GEOLOGIC PROVINCE CODE	220	360	360
DEPTH, FEET	13000	7354	7731
WELLHEAD PRESSURE,PSIG	2700	1760	2368
OPEN FLOW, MCFD	4000	3200	6500
COMPONENT, MOLE PCT			
METHANE	87.9	83.8	83.6
ETHANE	2.9	4.8	7.2
PROPANE	0.7	4.8	3.8
N-BUTANE	0.2	1.8	1.2
ISOBUTANE	0.3	0.7	0.5
N-PENTANE	0.1	0.4	0.4
ISOPENTANE	0.1	0.6	0.3
CYCLOPENTANE	TRACE	0.1	0.2
HEXANES PLUS	0.1	0.3	0.4
NITROGEN	0.3	2.3	1.3
OXYGEN	TRACE	0.0	0.0
ARGON	TRACE	0.0	0.0
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	7.3	0.3	1.1
HELIUM	0.01	0.15	0.07
HEATING VALUE*	991	1206	1190
SPECIFIC GRAVITY	0.661	0.705	0.697

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 160 SAMPLE 16359	INDEX 161 SAMPLE 16360	INDEX 162 SAMPLE 16213
STATE	TEXAS	TEXAS	TEXAS
COUNTY	LIVE OAK	LIVE OAK	LIVE OAK
FIELD	CHAPA E	CHAPA E.	FANT
WELL NAME	EL PASO NATURAL GAS NO. 2	EL PASO GAS NO. 1	STANLEY PAWLIK NO. 1
LOCATION	SEC.299, HOOPER&WADESUR.A250	HOOPER & WADE SUR. A-250	G. N. LAFANT #16 SUR. A-604
OWNER	AMINOIL USA, INC.	AMINOIL USA, INC.	PEND OREILLE OIL & GAS CO.
COMPLETED	08/31/79	01/24/79	NOT GIVEN
SAMPLED	10/--/81	10/--/81	03/18/81
FORMATION	EOCE-WILCOX	EOCE-WILCOX	EOCE-WILCOX
GEOLOGIC PROVINCE CODE	220	220	220
DEPTH, FEET	11088	9856	9476
WELLHEAD PRESSURE,PSIG	7430	5915	NOT GIVEN
OPEN FLOW, MCFD	47000	12400	20000
COMPONENT, MOLE PCT			
METHANE	87.4	87.9	85.2
ETHANE	4.7	4.6	6.3
PROPANE	1.1	1.1	3.6
N-BUTANE	0.2	0.2	0.8
ISOBUTANE	0.3	0.2	0.6
N-PENTANE	0.1	0.1	0.2
ISOPENTANE	0.1	0.1	0.3
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	0.2	0.1	0.2
NITROGEN	0.1	0.1	0.6
OXYGEN	0.0	0.0	TRACE
ARGON	0.0	TRACE	TRACE
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	5.7	5.5	2.1
HELIUM	TRACE	TRACE	TRACE
HEATING VALUE*	1037	1032	1152
SPECIFIC GRAVITY	0.663	0.656	0.682

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 163 SAMPLE 16379	INDEX 164 SAMPLE 16196	INDEX 165 SAMPLE 16272
STATE	TEXAS	TEXAS	TEXAS
COUNTY	LIVE OAK	LOVING	LOVING
FIELD	LEROY	ATOKA	MADERA RANCH
WELL NAME	J. G. RISER NO. 2	LUDEMAN "6" NO. 1	MALCOLM MADERA NO. 1
LOCATION	J.W. WINTERS SUR. 402, A792	SEC. 6, BLK. C-26,PSL SUR.	SEC. 5, BLK. 76, PSL SUR.
OWNER	H. L. HAWKINS, JR.	HNG OIL CO.	GETTY OIL CO.
COMPLETED	NOT GIVEN	12/10/80	07/12/80
SAMPLED	NOT GIVEN	02/24/81	05/10/81
FORMATION	EOCE-WILCOX	PENN-ATOKA	PENN-ATOKA
GEOLOGIC PROVINCE CODE	220	430	430
DEPTH, FEET	9545	15702	15224
WELLHEAD PRESSURE,PSIG	2150	10300	8638
OPEN FLOW, MCFD	2356	8153	4800
COMPONENT, MOLE PCT			
METHANE	86.5	94.6	97.4
ETHANE	6.1	0.6	0.9
PROPANE	2.9	0.1	0.1
N-BUTANE	0.6	TRACE	TRACE
ISOBUTANE	0.6	TRACE	TRACE
N-PENTANE	0.1	TRACE	TRACE
ISOPENTANE	0.4	TRACE	0.0
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.3	0.1	0.1
NITROGEN	0.3	0.8	1.0
OXYGEN	0.0	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	2.0	3.7	0.5
HELIUM	TRACE	0.03	0.02
HEATING VALUE*	1142	977	1011
SPECIFIC GRAVITY	0.671	0.600	0.571

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 166 SAMPLE 16340	INDEX 167 SAMPLE 16230	INDEX 168 SAMPLE 16259
STATE	TEXAS	TEXAS	TEXAS
COUNTY	LOVING	OCHILTREE	OCHILTREE
FIELD	SLASH RANCH	DUDE WILSON	HUNTON N
WELL NAME	W. D. JOHNSON ET AL. C NO. 1	KENT NO. 1	CONDON "53" NO. 1
LOCATION	SEC. 16, BLK. 53, T&P SUR.	SEC.570, BLK. 43, H&TC SUR.	SEC. 53, BLK. 10, HT&B SUR.
OWNER	MOBIL PROD. TEX AND N MEX	COURSON OIL & GAS, INC.	MEWBOURNE OIL CO.
COMPLETED	11/24/80	12/19/80	02/27/81
SAMPLED	09/24/81	04/10/81	05/20/81
FORMATION	SILU-FUSSELMAN	PENN-CLEVELAND	PENN-MORROW
GEOLOGIC PROVINCE CODE	430	360	360
DEPTH, FEET	19503	6937	8332
WELLHEAD PRESSURE,PSIG	6129	1666	2230
OPEN FLOW, MCFD	3550	4700	2100
COMPONENT, MOLE PCT			
METHANE	96.1	83.5	85.3
ETHANE	0.6	6.6	5.9
PROPANE	TRACE	4.6	3.3
N-BUTANE	TRACE	1.4	1.1
ISOBUTANE	TRACE	0.5	0.8
N-PENTANE	0.0	0.4	0.4
ISOPENTANE	0.1	0.3	0.7
CYCLOPENTANE	0.0	0.1	0.2
HEXANES PLUS	0.0	0.2	0.7
NITROGEN	0.9	2.0	1.2
OXYGEN	TRACE	0.0	TRACE
ARGON	TRACE	0.0	0.0
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.3	0.0	0.0
CARBON DIOXIDE	1.9	0.2	0.5
HELIUM	0.03	0.14	0.08
HEATING VALUE*	990	1191	1210
SPECIFIC GRAVITY	0.583	0.692	0.698

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 169 SAMPLE 16391	INDEX 170 SAMPLE 16247	INDEX 171 SAMPLE 16237
STATE	TEXAS	TEXAS	TEXAS
COUNTY	OCHILTREE	OCHILTREE	PALO PINTO
FIELD	TURNER	WAKA W	WILDCAT
WELL NAME	BENNY NO. 1	ARCHER-DENDY NO. 1	MITCHELL KAHLBAU NO. 2
LOCATION	SEC.404, BLK. 43, H&TC SUR.	SEC. 25, BLK. 4T, T&NO SUR.	SEC.1785, TE&L SUR. A-560
OWNER	NATURAL GAS ANADARKO, INC.	COURSON OIL & GAS CO.	THREE B OPERATING, INC.
COMPLETED	05/08/81	12/31/80	02/19/80
SAMPLED	12/02/81	04/28/81	04/20/81
FORMATION	PENN-CLEVELAND	PENN-MORROW	PENN-CONGLOMERATE
GEOLOGIC PROVINCE CODE	360	360	425
DEPTH, FEET	7312	7740	4010
WELLHEAD PRESSURE,PSIG	1790	1799	NOT GIVEN
OPEN FLOW, MCFD	2010	555	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	87.5	90.7	77.5
ETHANE	6.0	4.3	9.5
PROPANE	3.0	2.1	4.7
N-BUTANE	0.7	0.5	1.3
ISOBUTANE	0.2	0.2	0.5
N-PENTANE	0.1	0.1	0.4
ISOPENTANE	0.2	0.1	0.3
CYCLOPENTANE	TRACE	0.1	0.1
HEXANES PLUS	0.1	0.1	0.3
NITROGEN	1.3	1.4	4.5
OXYGEN	0.1	0.0	0.3
ARGON	TRACE	0.0	TRACE
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.6	0.3	0.3
HELIUM	0.07	0.12	0.10
HEATING VALUE*	1120	1091	1187
SPECIFIC GRAVITY	0.647	0.624	0.720

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 172 SAMPLE 16284	INDEX 173 SAMPLE 16294	INDEX 174 SAMPLE 16249
STATE	TEXAS	TEXAS	TEXAS
COUNTY	PARKER	PARKER	PECOS
FIELD	SPRINGTOWN	STRAWN	PECOS GRANDE
WELL NAME	MATHIS NO. 1	LEONARD NO. 2	8004 JV-P GRANDE NO. 1
LOCATION	M. THOMAS SUR., A-1304	JOHN COLE SUR., A-218	SEC. 2, BLK.49,T-10 T&PRR SU
OWNER	SPINDLETOP OIL & GAS CO.	WORLD PRODUCERS, INC.	BTA OIL PRODUCERS
COMPLETED	07/30/80	01/17/81	08/04/80
SAMPLED	06/12/81	07/13/81	04/29/81
FORMATION	PENN-BEND CONGLOMERATE	PENN-STRAWN	ORDO-ELLENBURGER
GEOLOGIC PROVINCE CODE	420	420	430
DEPTH, FEET	5445	2525	21517
WELLHEAD PRESSURE,PSIG	1790	842	6400
OPEN FLOW, MCFD	3000	7775	17922
COMPONENT, MOLE PCT			
METHANE	84.6	90.0	90.9
ETHANE	8.2	2.8	0.1
PROPANE	3.0	1.1	TRACE
N-BUTANE	0.6	0.3	TRACE
ISOBUTANE	0.5	0.2	0.0
N-PENTANE	0.1	0.1	TRACE
ISOPENTANE	0.2	TRACE	0.0
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.2	0.1	TRACE
NITROGEN	1.9	4.8	0.6
OXYGEN	0.0	0.1	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.5	0.1	8.2
HELIUM	0.10	0.34	0.03
HEATING VALUE*	1142	1017	923
SPECIFIC GRAVITY	0.664	0.611	0.636

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 175 SAMPLE 7885	INDEX 176 SAMPLE 16293	INDEX 177 SAMPLE 16270
STATE	TEXAS	TEXAS	TEXAS
COUNTY	PECOS	RUNNELS	UPSHUR
FIELD	PUTNAM	COLLOM	DELROSE
WELL NAME	MCDONALD NO. 1	A. J. COLLOM A NO. 1	NED PARRISH NO. 1
LOCATION	SEC. 124, BLK. 11, H&GN SUR.	JULIANA V. CABRARA SUR. 514	W. B. HICKS SUR. A-211
OWNER	CLARK OIL CO.	HARKEN OIL & GAS INC.	EXXON CO., U.S.A.
COMPLETED	02/--/61	12/20/80	03/08/79
SAMPLED	05/01/61	07/16/81	05/19/81
FORMATION	PERM-WOLFCAMP L	ORDO-ELLENBURGER	JURA-HAYNESVILLE
GEOLOGIC PROVINCE CODE	430	425	260
DEPTH, FEET	5076	4352	11472
WELLHEAD PRESSURE,PSIG	2100	1750	6252
OPEN FLOW, MCFD	5200	6000	4000
COMPONENT, MOLE PCT			
METHANE	87.4	69.4	91.8
ETHANE	5.4	10.1	3.6
PROPANE	2.1	5.5	1.2
N-BUTANE	0.7	1.5	0.4
ISOBUTANE	0.3	0.7	0.5
N-PENTANE	0.2	0.4	0.2
ISOPENTANE	0.1	0.4	0.1
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	0.2	0.3	0.3
NITROGEN	3.2	11.0	0.5
OXYGEN	TRACE	0.0	0.0
ARGON	TRACE	TRACE	0.0
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	TRACE	0.2	1.2
HELIUM	0.10	0.38	TRACE
HEATING VALUE*	1097	1154	1088
SPECIFIC GRAVITY	0.642	0.763	0.626

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 178 SAMPLE 16288	INDEX 179 SAMPLE 16320	INDEX 180 SAMPLE 16221
STATE	TEXAS	TEXAS	TEXAS
COUNTY	WARD	WARD	WEBB
FIELD	MERIDIAN S	MERIDIAN S	LINCOLN
WELL NAME	UNIVERSITY "42-20" NO. 1	UNIVERSITY 42-20 NO. 1	LINCOLN ESTATE NO. 1
LOCATION	SEC. 42, BLK. 20, ULS SUR.	SEC. 42, BLK. 20, ULS SUR.	M. LOPEZ NO. 282 SUR.,A-2111
OWNER	GETTY OIL CO.	GETTY OIL CO.	HUGHES & HUGHES
COMPLETED	08/27/80	08/27/80	08/07/80
SAMPLED	06/17/81	08/20/81	03/30/81
FORMATION	ORDO-ELLENBURGER	ORDO-FUSSELMAN	DEVO-WILCOX
GEOLOGIC PROVINCE CODE	430	430	220
DEPTH, FEET	22154	19938	7476
WELLHEAD PRESSURE,PSIG	6815	5865	3477
OPEN FLOW, MCFD	3810	6008	66000
COMPONENT, MOLE PCT			
METHANE	98.1	95.6	88.5
ETHANE	0.2	0.4	5.7
PROPANE	0.1	0.1	2.6
N-BUTANE	0.0	0.0	0.6
ISOBUTANE	0.0	0.0	0.5
N-PENTANE	0.0	0.0	0.2
ISOPENTANE	0.0	0.0	0.3
CYCLOPENTANE	0.0	0.0	0.1
HEXANES PLUS	0.0	0.0	0.2
NITROGEN	0.4	0.6	0.4
OXYGEN	TRACE	0.0	0.0
ARGON	TRACE	TRACE	0.0
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.2	3.3	1.0
HELIUM	0.02	0.02	TRACE
HEATING VALUE*	1000	978	1138
SPECIFIC GRAVITY	0.570	0.592	0.654

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 181 SAMPLE 16375	INDEX 182 SAMPLE 16166	INDEX 183 SAMPLE 16217
STATE	TEXAS	TEXAS	TEXAS
COUNTY	WEBB	WHEELER	WHEELER
FIELD	ROSA V. BENAVIDES	BILLY-ROSE	KELTON NW
WELL NAME	ROSA V. BENAVIDES B NO. 3	HEFLEY G.U. NO. 1	MILES GAS UNIT NO. 1
LOCATION	POITEVENT NO. 111 SUR.A-1616	SEC. 13, BLK. A-8, H&GN SUR.	SEC. 2, BLK. A-4, H&GN SUR.
OWNER	CONOCO, INC.	LEEDE OIL & GAS CO.	EXXON CO., U.S.A.
COMPLETED	02/07/81	06/08/80	09/18/79
SAMPLED	11/05/81	01/13/81	03/27/81
FORMATION	-CAPRICE WALKER LOBO	PERM-GRANITE WASH	DEVO-HUNTON
GEOLOGIC PROVINCE CODE	220	360	360
DEPTH, FEET	8074	5400	16450
WELLHEAD PRESSURE,PSIG	3200	1313	4786
OPEN FLOW, MCFD	2532	1000	18313
COMPONENT, MOLE PCT			
METHANE	85.8	63.4	95.7
ETHANE	6.7	10.3	1.6
PROPANE	2.7	9.3	0.4
N-BUTANE	0.7	5.4	0.2
ISOBUTANE	0.6	3.0	0.1
N-PENTANE	0.2	2.0	0.1
ISOPENTANE	0.4	2.5	0.1
CYCLOPENTANE	0.1	0.5	TRACE
HEXANES PLUS	0.3	1.8	0.1
NITROGEN	1.2	1.7	1.0
OXYGEN	0.2	TRACE	TRACE
ARGON	TRACE	0.0	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.1	0.0	0.8
HELIUM	TRACE	0.04	0.02
HEATING VALUE*	1148	1655	1032
SPECIFIC GRAVITY	0.672	0.973	0.590

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 184 SAMPLE 16304	INDEX 185 SAMPLE 16362	INDEX 186 SAMPLE 16338
STATE	TEXAS	TEXAS	TEXAS
COUNTY	WHEELER	WHEELER	WHEELER
FIELD	SILVER CREEK	STILES RANCH	THORNDIKE
WELL NAME	A. D. MAY NO. 1	G. C. DAVIS NO. 1	H. B. TAYLOR JR. NO. 2
LOCATION	SEC. 16, BLK. A-4, H&GN SUR.	SEC. 61, BLK. A-7, H&GN SUR.	SEC. 4, BLK. A-2, H&GN SUR.
OWNER	GETTY OIL CO.	HUNT ENERGY CORP.	AMOCO PRODUCTION CO.
COMPLETED	11/11/80	02/19/81	06/05/81
SAMPLED	08/11/81	10/20/81	09/18/81
FORMATION	MISS-	PENN-MORROW	PENN-ATOKA
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	14722	17722	11298
WELLHEAD PRESSURE,PSIG	2640	9666	2275
OPEN FLOW, MCFD	2100	6300	3600
COMPONENT, MOLE PCT			
METHANE	87.4	97.2	91.7
ETHANE	5.7	0.8	3.8
PROPANE	2.5	0.1	1.6
N-BUTANE	0.8	TRACE	0.4
ISOBUTANE	0.5	TRACE	0.1
N-PENTANE	0.2	TRACE	0.1
ISOPENTANE	0.2	0.0	0.1
CYCLOPENTANE	0.2	TRACE	TRACE
HEXANES PLUS	0.4	0.1	0.1
NITROGEN	2.0	0.4	1.0
OXYGEN	0.0	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	TRACE	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	1.4	0.9
HELIUM	0.02	0.01	0.03
HEATING VALUE*	1141	1007	1069
SPECIFIC GRAVITY	0.659	0.577	0.615

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 187 SAMPLE 16224	INDEX 188 SAMPLE 16202	INDEX 189 SAMPLE 16396
STATE	TEXAS	TEXAS	TEXAS
COUNTY	WHEELER	WINKLER	ZAPATA
FIELD	WHEELER NE	LITTLE JOE	MC ASKILL LOBO
WELL NAME	YOUNG NO.1-32	UNIVERSITY NO. 32-21	MC ASKILL NO. 4
LOCATION	SEC. 32, BLK. A3, H&TC SUR.	SEC. 32, BLK. 21, U. L. SUR.	J. V. BOREGO, A-209
OWNER	UNION TEXAS PETROLEUM CORP.	GETTY OIL CO.	G. H. R. ENERGY CORP.
COMPLETED	07/05/80	07/25/80	09/19/80
SAMPLED	04/07/81	03/03/81	12/16/81
FORMATION	PENN-MORROW	SILU-FUSSELMAN	CRET-LOBO
GEOLOGIC PROVINCE CODE	360	430	220
DEPTH, FEET	15730	17560	10166
WELLHEAD PRESSURE,PSIG	7665	5060	NOT GIVEN
OPEN FLOW, MCFD	3800	20200	3000
COMPONENT, MOLE PCT			
METHANE	87.2	95.5	95.7
ETHANE	1.0	1.6	1.1
PROPANE	0.1	0.3	0.1
N-BUTANE	0.1	0.1	0.0
ISOBUTANE	0.0	TRACE	0.0
N-PENTANE	TRACE	TRACE	0.0
ISOPENTANE	TRACE	TRACE	0.0
CYCLOPENTANE	TRACE	TRACE	0.0
HEXANES PLUS	0.1	TRACE	0.0
NITROGEN	7.8	1.1	0.2
OXYGEN	1.9	0.0	TRACE
ARGON	0.1	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	TRACE	0.0
CARBON DIOXIDE	1.6	1.3	2.8
HELIUM	0.02	0.02	TRACE
HEATING VALUE*	912	1007	992
SPECIFIC GRAVITY	0.623	0.584	0.588

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 190 SAMPLE 16380	INDEX 191 SAMPLE 16278	INDEX 192 SAMPLE 16248
STATE	WEST VIRGINIA	WEST VIRGINIA	WYOMING
COUNTY	MERCER	RANDOLPH	CARBON
FIELD	NOT GIVEN	MIDDLE FORK	STANDARD DRAW
WELL NAME	NO. 20062	MCMULLAN NO. A-925	STANDARD DRAW-NO. 3-16
LOCATION	JUMPING BRANCH DISTRICT	CASSITY QUADRANGLE	SEC. 16, T18N, R93W
OWNER	COLUMBIA GAS TRANSMISSION	ALLEGHENY LAND&MINERAL CO.	MARATHON OIL CO.
COMPLETED	12/17/79	12/12/80	10/11/80
SAMPLED	11/10/81	06/09/81	04/23/81
FORMATION	MISS-MAXTON	DEVO-CHERT	CRET-MESAVERDE
GEOLOGIC PROVINCE CODE	160	160	535
DEPTH, FEET	2753	7747	9000
WELLHEAD PRESSURE,PSIG	455	2600	3900
OPEN FLOW, MCFD	4721	9100	6000
COMPONENT, MOLE PCT			
METHANE	97.7	96.8	83.1
ETHANE	1.3	1.8	8.5
PROPANE	0.1	0.1	3.6
N-BUTANE	0.0	TRACE	0.8
ISOBUTANE	0.0	TRACE	0.6
N-PENTANE	0.0	TRACE	0.2
ISOPENTANE	0.0	TRACE	0.2
CYCLOPENTANE	0.0	TRACE	0.1
HEXANES PLUS	0.0	TRACE	0.1
NITROGEN	0.5	0.7	0.5
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	0.0	0.0
HYDROGEN	0.1	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.4	2.2
HELIUM	0.09	0.03	0.01
HEATING VALUE*	1016	1015	1161
SPECIFIC GRAVITY	0.563	0.570	0.689

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 193 SAMPLE 16269	INDEX 194 SAMPLE 16191	INDEX 195 SAMPLE 15731
STATE	WYOMING	WYOMING	WYOMING
COUNTY	FREMONT	LINCOLN	SUBLETTE
FIELD	LYSITE	SEVEN MILE GULCH	TIP TOP
WELL NAME	LONG BUTTE UNIT 30-1X	SEVEN MILE GULCH NO. 8	TIP TOP UNIT F14-13G
LOCATION	SEC. 30, T39N, R91W	SEC. 21, T20N, R112W	SEC. 13, T28N, R114W
OWNER	MONCRIEF OIL	AMOCO PRODUCTION CO.	MOBIL OIL CORP.
COMPLETED	09/01/79	11/14/80	NOT GIVEN
SAMPLED	05/04/81	02/17/81	08/01/79
FORMATION	CRET-1ST & 2ND SHANNON	CRET-FRONTIER	ORDO-BIG HORN
GEOLOGIC PROVINCE CODE	530	535	535
DEPTH, FEET	18152	11286	15153
WELLHEAD PRESSURE,PSIG	10000	800	2578
OPEN FLOW, MCFD	5000	420	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	96.9	86.6	7.3
ETHANE	0.1	6.8	TRACE
PROPANE	TRACE	1.5	0.0
N-BUTANE	TRACE	0.4	0.0
ISOBUTANE	0.0	0.4	0.0
N-PENTANE	TRACE	0.1	0.0
ISOPENTANE	0.0	0.7	0.0
CYCLOPENTANE	TRACE	0.2	0.0
HEXANES PLUS	0.1	0.4	0.0
NITROGEN	0.3	2.0	7.7
OXYGEN	0.0	0.5	0.0
ARGON	0.0	TRACE	0.1
HYDROGEN	0.0	0.0	0.1
HYDROGEN SULFIDE**	0.0	0.0	1.6
CARBON DIOXIDE	2.4	0.5	82.2
HELIUM	TRACE	0.01	0.92
HEATING VALUE*	989	1127	85
SPECIFIC GRAVITY	0.581	0.661	1.394

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 196 SAMPLE 15732	INDEX 197 SAMPLE 15733	INDEX 198 SAMPLE 15734
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SUBLETTE	SUBLETTE	SUBLETTE
FIELD	TIP TOP	TIP TOP	TIP TOP
WELL NAME	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G
LOCATION	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W
OWNER	MOBIL OIL CORP.	MOBIL OIL CORP.	MOBIL OIL CORP.
COMPLETED	NOT GIVEN	NOT GIVEN	NOT GIVEN
SAMPLED	08/01/79	08/22/79	08/17/79
FORMATION	ORDO-BIG HORN	MISS-MADISON	MISS-MADISON
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	15153	14335	14335
WELLHEAD PRESSURE,PSIG	2578	3120	NOT GIVEN
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	10.0	23.6	22.8
ETHANE	TRACE	0.1	0.1
PROPANE	0.0	0.0	0.0
N-BUTANE	0.0	0.0	0.0
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	0.0
ISOPENTANE	0.0	0.0	0.0
CYCLOPENTANE	0.0	0.0	0.0
HEXANES PLUS	0.0	0.0	0.0
NITROGEN	10.7	8.0	7.7
OXYGEN	0.0	0.0	0.0
ARGON	0.1	0.1	0.1
HYDROGEN	0.1	TRACE	TRACE
HYDROGEN SULFIDE**	1.2	5.7	6.0
CARBON DIOXIDE	76.6	62.0	62.7
HELIUM	1.32	0.61	0.59
HEATING VALUE*	109	277	271
SPECIFIC GRAVITY	1.348	1.227	1.234

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 199 SAMPLE 15735	INDEX 200 SAMPLE 15736	INDEX 201 SAMPLE 15737
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SUBLETTE	SUBLETTE	SUBLETTE
FIELD	TIP TOP	TIP TOP	TIP TOP
WELL NAME	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G
LOCATION	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W
OWNER	MOBIL OIL CORP.	MOBIL OIL CORP.	MOBIL OIL CORP.
COMPLETED	NOT GIVEN	NOT GIVEN	NOT GIVEN
SAMPLED	08/17/79	08/07/79	08/07/79
FORMATION	MISS-MADISON	DEVO-DARBY	DEVO-DARBY
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	14335	14818	14818
WELLHEAD PRESSURE,PSIG	NOT GIVEN	2962	2962
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	22.0	19.4	19.4
ETHANE	0.1	0.1	0.1
PROPANE	0.0	0.0	0.0
N-BUTANE	0.0	0.0	0.0
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	0.0
ISOPENTANE	0.0	0.0	0.0
CYCLOPENTANE	0.0	0.0	0.0
HEXANES PLUS	0.0	0.0	0.0
NITROGEN	7.5	7.9	7.9
OXYGEN	0.0	0.0	0.0
ARGON	0.1	0.1	0.1
HYDROGEN	TRACE	0.1	0.0
HYDROGEN SULFIDE**	6.4	4.6	4.5
CARBON DIOXIDE	63.4	67.2	67.3
HELIUM	0.51	0.66	0.66
HEATING VALUE*	266	228	227
SPECIFIC GRAVITY	1.243	1.270	1.270

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 202 SAMPLE 15751	INDEX 203 SAMPLE 15752	INDEX 204 SAMPLE 15753
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SUBLETTE	SUBLETTE	SUBLETTE
FIELD	TIP TOP	TIP TOP	TIP TOP
WELL NAME	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G
LOCATION	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W
OWNER	MOBIL OIL CORP.	MOBIL OIL CORP.	MOBIL OIL CORP.
COMPLETED	NOT GIVEN	NOT GIVEN	NOT GIVEN
SAMPLED	09/08/79	09/07/79	09/07/79
FORMATION	PERM-PHOSPHORIA	PERM-PHOSPHORIA	PERM-PHOSPHORIA
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	12767	12774	12774
WELLHEAD PRESSURE,PSIG	3145	3155	3155
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	23.2	23.6	23.8
ETHANE	0.1	0.1	0.1
PROPANE	0.0	0.0	0.0
N-BUTANE	0.0	0.0	0.0
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	0.0
ISOPENTANE	0.0	0.0	0.0
CYCLOPENTANE	0.0	0.0	0.0
HEXANES PLUS	0.0	0.0	0.0
NITROGEN	8.3	7.8	8.0
OXYGEN	0.1	0.0	0.0
ARGON	0.1	0.1	0.1
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	5.2	6.2	6.2
CARBON DIOXIDE	62.4	61.6	61.3
HELIUM	0.62	0.62	0.63
HEATING VALUE*	270	281	283
SPECIFIC GRAVITY	1.229	1.225	1.224

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 205 SAMPLE 15755	INDEX 206 SAMPLE 15756	INDEX 207 SAMPLE 15757
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SUBLETTE	SUBLETTE	SUBLETTE
FIELD	TIP TOP	TIP TOP	TIP TOP
WELL NAME	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G
LOCATION	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W
OWNER	MOBIL OIL CORP.	MOBIL OIL CORP.	MOBIL OIL CORP.
COMPLETED	NOT GIVEN	NOT GIVEN	NOT GIVEN
SAMPLED	09/04/79	09/06/79	09/06/79
FORMATION	PERM-PHOSPHORIA	PERM-PHOSPHORIA	PERM-PHOSPHORIA
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	13006	12842	12842
WELLHEAD PRESSURE,PSIG	3145	3147	3147
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	23.6	23.2	21.7
ETHANE	0.1	0.1	0.1
PROPANE	TRACE	0.0	0.0
N-BUTANE	0.0	0.0	0.0
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	0.0
ISOPENTANE	0.0	0.0	0.0
CYCLOPENTANE	0.0	0.0	0.0
HEXANES PLUS	0.0	0.0	0.0
NITROGEN	8.0	7.8	7.2
OXYGEN	TRACE	0.0	0.0
ARGON	0.1	0.1	0.1
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**	2.0	6.3	6.8
CARBON DIOXIDE	65.7	61.9	63.5
HELIUM	0.62	0.65	0.54
HEATING VALUE*	254	277	265
SPECIFIC GRAVITY	1.240	1.229	1.245

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 208 SAMPLE 15758	INDEX 209 SAMPLE 15759	INDEX 210 SAMPLE 15760
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SUBLETTE	SUBLETTE	SUBLETTE
FIELD	TIP TOP	TIP TOP	TIP TOP
WELL NAME	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G
LOCATION	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W
OWNER	MOBIL OIL CORP.	MOBIL OIL CORP.	MOBIL OIL CORP.
COMPLETED	NOT GIVEN	NOT GIVEN	NOT GIVEN
SAMPLED	09/04/79	08/27/79	08/27/79
FORMATION	PERM-PHOSPHORIA	PENN-TENSLEEP	PENN-TENSLEEP
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	13006	13084	13084
WELLHEAD PRESSURE,PSIG	3145	3145	3145
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	23.0	22.8	22.7
ETHANE	0.1	0.1	0.1
PROPANE	0.0	0.0	0.0
N-BUTANE	0.0	0.0	0.0
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	0.0
ISOPENTANE	0.0	0.0	0.0
CYCLOPENTANE	0.0	0.0	0.0
HEXANES PLUS	0.0	0.0	0.0
NITROGEN	7.7	7.7	7.7
OXYGEN	0.0	0.0	0.0
ARGON	0.1	0.1	0.1
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**	6.4	6.6	6.7
CARBON DIOXIDE	62.1	62.2	62.2
HELIUM	0.57	0.56	0.56
HEATING VALUE*	276	275	275
SPECIFIC GRAVITY	1.231	1.234	1.234

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 211 SAMPLE 15802	INDEX 212 SAMPLE 15803	INDEX 213 SAMPLE 15830
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SUBLETTE	SUBLETTE	SUBLETTE
FIELD	TIP TOP	TIP TOP	TIP TOP
WELL NAME	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G	TIP TOP UNIT F14-13G
LOCATION	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W	SEC. 13, T28N, R114W
OWNER	MOBIL OIL CORP.	MOBIL OIL CORP.	MOBIL OIL CORP.
COMPLETED	NOT GIVEN	NOT GIVEN	NOT GIVEN
SAMPLED	10/11/79	10/11/79	10/26/79
FORMATION	-COMMINGLED	-COMMINGLED	MISS-MADISON
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	12760	12760	13904
WELLHEAD PRESSURE,PSIG	3120	3120	3300
OPEN FLOW, MCFD	6834	6834	7200
COMPONENT, MOLE PCT			
METHANE	22.3	22.2	24.0
ETHANE	0.1	0.1	0.1
PROPANE	0.0	0.0	0.0
N-BUTANE	0.0	0.0	0.0
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	0.0
ISOPENTANE	0.0	0.0	0.0
CYCLOPENTANE	0.0	0.0	0.0
HEXANES PLUS	0.0	0.0	0.0
NITROGEN	7.8	7.7	10.0
OXYGEN	0.0	0.0	TRACE
ARGON	0.1	0.1	0.1
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**	5.8	5.9	5.9
CARBON DIOXIDE	63.3	63.3	59.2
HELIUM	0.61	0.61	0.62
HEATING VALUE*	265	264	283
SPECIFIC GRAVITY	1.239	1.239	1.208

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 214 SAMPLE 15831	INDEX 215 SAMPLE 16161	INDEX 216 SAMPLE 16197
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SUBLETTE	SWEETWATER	SWEETWATER
FIELD	TIP TOP	BRUFF	BRUFF
WELL NAME	TIP TOP UNIT F14-13G	A. M. TRIPP NO. 1	CHAMPLIN NO. 149-J
LOCATION	SEC. 13, T28N, R114W	SEC. 14, T19N, R112W	SEC. 11, T19N, R112W
OWNER	MOBIL OIL CORP.	TEXACO INC.	AMOCO PRODUCTION CO.
COMPLETED	NOT GIVEN	07/31/80	09/30/80
SAMPLED	10/26/79	01/05/81	02/17/81
FORMATION	MISS-MADISON	CRET-FRONTIER	CRET-FRONTIER
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	13904	11332	11424
WELLHEAD PRESSURE,PSIG	3300	5600	1250
OPEN FLOW, MCFD	7200	2250	4027
COMPONENT, MOLE PCT			
METHANE	23.3	88.4	88.3
ETHANE	0.1	7.9	6.8
PROPANE	0.0	1.8	1.3
N-BUTANE	0.0	0.3	0.2
ISOBUTANE	0.0	0.2	0.2
N-PENTANE	0.0	0.1	0.0
ISOPENTANE	0.0	0.1	0.5
CYCLOPENTANE	0.0	TRACE	0.2
HEXANES PLUS	0.0	0.1	0.4
NITROGEN	9.6	0.6	1.3
OXYGEN	0.0	TRACE	0.3
ARGON	0.1	TRACE	TRACE
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	6.1	0.0	0.0
CARBON DIOXIDE	60.2	0.5	0.5
HELIUM	0.59	0.01	0.01
HEATING VALUE*	277	1114	1113
SPECIFIC GRAVITY	1.218	0.633	0.642

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 217 SAMPLE 16169	INDEX 218 SAMPLE 16398	INDEX 219 SAMPLE 16195
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SWEETWATER	SWEETWATER	SWEETWATER
FIELD	CAMEL ROCK	CAMEL ROCK	LEUCITE HILLS
WELL NAME	FEDERAL NO. 21-4	FEDERAL NO. 21-4	AMOCO CHAMPLIN NO. 3-17
LOCATION	SEC. 4, T17N, R102W	SEC. 4, T17N, R102W	SEC. 17, T21N, R103W
OWNER	HOUSTON OIL & MINERALS CORP.	TENNECO OIL EXPLOR. & PROD.	LUFF EXPLORATION CO.
COMPLETED	08/18/80	06/18/80	10/23/80
SAMPLED	01/12/81	12/16/81	02/27/81
FORMATION	CRET-DAKOTA	CRET-DAKOTA	JURA-MORRISON
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	5617	5000	6020
WELLHEAD PRESSURE,PSIG	1525	1650	1925
OPEN FLOW, MCFD	2153	2000	1041
COMPONENT, MOLE PCT			
METHANE	59.1	59.3	90.4
ETHANE	3.5	3.4	4.4
PROPANE	1.6	1.7	1.9
N-BUTANE	0.4	0.4	0.7
ISOBUTANE	0.3	0.3	0.4
N-PENTANE	0.1	0.1	0.3
ISOPENTANE	0.1	0.1	0.2
CYCLOPENTANE	TRACE	0.1	0.1
HEXANES PLUS	0.1	0.2	0.2
NITROGEN	30.1	30.0	1.3
OXYGEN	0.2	0.2	0.0
ARGON	0.2	0.2	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	3.5	3.2	0.1
HELIUM	0.76	0.78	0.02
HEATING VALUE*	740	752	1116
SPECIFIC GRAVITY	0.762	0.764	0.635

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 220 SAMPLE 16212	INDEX 221 SAMPLE 16190	INDEX 222 SAMPLE 16352
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SWEETWATER	UINTA	UINTA
FIELD	SIX MILE SPRING	BRUFF	NOT GIVEN
WELL NAME	LEAR FEDERAL NO. 1	CHAMPLIN NO. 186-F	HENRY UNIT NO. 1
LOCATION	SEC. 30, T18N,R104W	SEC. 5, T18N, R112W	SEC. 5, T13N, R113W
OWNER	COLUMBINE EXPLORATION CORP.	AMOCO PRODUCTION CO.	FOREST OIL CO.
COMPLETED	NOT GIVEN	04/28/80	NOT GIVEN
SAMPLED	03/24/81	02/17/81	10/04/81
FORMATION	CRET-FRONTIER	CRET-DAKOTA	CRET-DAKOTA
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	4767	12044	NOT GIVEN
WELLHEAD PRESSURE,PSIG	1400	750	NOT GIVEN
OPEN FLOW, MCFD	NOT GIVEN	165	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	89.0	87.1	85.5
ETHANE	7.5	7.2	7.9
PROPANE	1.7	2.0	2.7
N-BUTANE	0.3	0.3	0.5
ISOBUTANE	0.2	0.3	0.5
N-PENTANE	0.1	TRACE	0.1
ISOPENTANE	0.1	0.3	0.3
CYCLOPENTANE	TRACE	0.1	0.1
HEXANES PLUS	0.1	0.2	0.3
NITROGEN	0.7	1.4	1.0
OXYGEN	TRACE	0.2	TRACE
ARGON	TRACE	TRACE	0.0
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	0.8	0.9
HELIUM	0.02	0.01	0.02
HEATING VALUE*	1111	1110	1148
SPECIFIC GRAVITY	0.627	0.646	0.664

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 1 SAMPLE 15271	INDEX 2 SAMPLE 15272
STATE	LOUISIANA	LOUISIANA
PARISH	ASCENSION	ASCENSION
FIELD	PLANT SAMPLE	PLANT SAMPLE
PLANT NAME	NOT GIVEN	AMMONIA PLANT
LOCATION	CYLINDER NO. 9181	CYLINDER 9134
OWNER	AGRICO CHEMICAL CO.	AGRICO CHEMICAL CO.
SAMPLED	04/--/78	NOT GIVEN
FORMATION	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	220	220
PRESSURE,PSIG	500	5
FLOW,MCFD	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT		
METHANE	94.2	8.1
ETHANE	2.8	0.0
PROPANE	0.9	TRACE
N-BUTANE	0.3	0.0
ISOBUTANE	0.2	0.0
N-PENTANE	0.1	0.0
ISOPENTANE	0.1	0.0
CYCLOPENTANE	0.1	0.0
HEXANES PLUS	0.1	0.0
NITROGEN	0.3	22.3
OXYGEN	0.0	0.0
ARGON	TRACE	4.6
HYDROGEN	TRACE	65.0
HYDROGEN SULFIDE	0.0	0.0
CARBON DIOXIDE	0.8	TRACE
HELIUM	TRACE	0.00
HEATING VALUE*	1062	293
SPECIFIC GRAVITY	0.602	0.369

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

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